THE CANNING TRADE THE BUSINESS JOURNAL OF THE CANNING AND ALLIED INDUSTRIES

Published Every Monday Since 1878 • ARTHUR I. JUDGE, *Editor* • VOLUME 72, NUMBER 41

ADDRESS ALL CORRESPONDENCE BALTIMORE 2, MD.

EDITORIALS

FROZEN PACKS—Figures on the 1949 packs of frozen fruits and vegetables, issued during the week by Secretary Martin of the National Association, and appearing elsewhere in this issue, should receive the careful attention of every reader. There are those who say that frozen foods don't compete with canned foods but with fresh foods. The writer of this column has never been able to agree with this line of thought. The capacity of our stomachs being limited, it would seem to follow that all foods are competitive, no matter what their shape or form. Canned peas compete with canned corn for the consumer's favor, canned beans with canned spinach, carrots with beets, etc. When frozen broccoli is served for dinner, it's a safe bet there'll be no canned peas or canned beans served. Let's assume the consumer actually took fresh broccoli out of her basket and returned it to the counter when she saw the frozen product—an actual direct substitute for the fresh product—yet it can still be reasonably argued that a canned product—and not necessarily broccoli—might have been sold had the housewife's mind been so conditioned. Just so—that eight or nine hundred odd million pounds of frozen fruits and vegetables sold in 1949, wrapped in tin or glass, would have represented some 35 to 40 million cases. Roughly that's pretty close to 10 percent of what actually was sold in the canned form.

The figures do not include those for frozen, concentrated citrus probably because it has been next to impossible to keep abreast of this fast moving situation. Incidentally anyone not convinced that frozen foods are competitive to the canned article might ask the single strength citrus canner what he thinks about the competitive picture. Asparagus canners and spinach and lima bean canners, too, might add a word or two of their own on the subject also.

So it's not only interesting but most important to watch this vigorous young industry closely. The pattern of its growth this past decade is familiar to all—phenomenal yearly increases in nearly every commodity to the peak and the bust pack of 1946, followed by a sharp reduction in 1947 all down the line. Just about that time frozen concentrated orange juice, backed by powerful promotional interests, put new life in the industry and gave promise of handsome returns for those who had successfully recovered from the growing pains. Now that the excitement over orange juice has subsided somewhat, it is possible to view the industry a bit more objectively. Without the liquid gold, the fruit pack, surprisingly enough, is off 5 percent from last year and down almost to the level of 1947. Sixty-five percent of the pack is represented in three items—strawberries, cherries and apples. The packs of strawberries and cherries seem to be settling for the present at a lower level than peak. The picture in vegetables is strikingly different. A new peak approximately 25 percent greater than the record 1946 pack was established in 1949. Although peas remain the leading item, there is indication that this pack is settling considerably below peak and that it may soon be overtaken by lima beans and possibly spinach. Sharp increases in broccoli, Brussels sprouts and cauliflower should be noted and the corn pack which was nearly doubled, should not be overlooked.

April 1 stocks of both fruits and vegetables were not burdensome. Neither were they drastically short. There were 254.6 million pounds of fruit compared to 265.2 million last April 1, and 269.6 million pounds of vegetables compared to 305.3 million pounds last April 1. During March 1950 fruit stocks, excluding juices, decreased by 28 million pounds, somewhat less than average; vegetable stocks decreased by 36 million pounds compared to an average March decrease of 21 million pounds.

So it looks like a moderate increase in the 1950 pack of vegetables is called for and a fruit pack of about the same size, excepting citrus, of course. But what about 1951, 1952, 1953 . . .? Surely frozen foods have earned a rightful place in the market place. Just how large a slice of the distribution pie they will ultimately take depends on a number of things, the most important of which, this column believes, is cost. While much can undoubtedly be done to reduce costs, the basic extras of holding and distribution can hardly be sufficiently overcome to meet the handling costs of canned foods and win the favor of the masses. The second most important factor affecting the production and distribution of frozen foods is the proper handling by wholesaler and retailer. To date packers have failed to impress these gentlemen that without their cooperation, the delivery of a quality product to the consumer is impossible. One more consideration that will tend to limit the production and sale of frozen foods is the fact that they must be properly handled by the consumer. The competition of the tin can that can be dropped on the floor, literally kicked around, and otherwise battered, thrown on the shelf where it remains unchanged for months and months, ready and handy at a moment's notice in any emergency, or for daily use—this competition we repeat, is going to be a bit difficult to overcome.

TECHNOLOGICALLY SPEAKING

By MAURICE SIEGEL and LeROY V. STRASBURGER

This column will appear at least once a month. Canners with problems pertaining to the chemistry and bacteriology of food, including sanitation and waste disposal, are freely invited to submit their questions to the authors—Address: "Technologically Speaking" c/o this publication.

CANNERY WASTE AND STREAM POLLUTION

Cannery waste disposal has become the "problem child" of the industry. All canners are faced with the legal implications of stream pollution and the mandates and regulations of the individual State Pollution Boards.

The waste material that is discharged from the average vegetable cannery is usually of diverse sizes, shapes, conditions and high in organic solids. This serves to complicate the nature and order of treatment.

Preparation methods in the canning of vegetables demand the use of large quantities of water in order to remove surface dirt and to thoroughly cleanse the product and to maintain quality. Added to this is the waste water resulting from the blanching and cooling operations. The volume is further increased by the water that is used for the clean-up of equipment and the sanitizing of the plant. Thus, the total amount of waste water that flows from a small plant in a single day may reach unbelievable proportions.

Such cannery crops as peas, corn and tomatoes will add to the waste water, a portion of their component parts in the form of sugars, starches, proteins, fat, organic acids and fiber. These may be present in suspended, colloidal and soluble forms. The feeding of such waste water into a stream constitutes pollution as the organic solids will be fermented or decomposed by the action of bacteria. The completion of the biological process depends largely upon oxygen which has dissolved in the water from the air. The amount of dissolved oxygen is dependent upon the temperature of the water and the degree of contact between air and water. An increase in the temperature of the water decreases the amount of oxygen that dissolves but increases the rate of bacterial activity and conversely, a decrease in temperature increases the amount of oxygen that dissolves in water but decreases the rate of decomposition.

Aquatic life is dependent upon an adequate supply of oxygen on the water, the minimum requirement being about 4 parts per million. Removing the oxygen content of the water below this will not only destroy fish life, but plant life as well.

Introducing cannery wastes into the stream may result in a depletion of this dissolved oxygen and the rate of depletion will depend upon the amount of organic solids present in the waste and the dilution ratio of the stream. The complete removal of dissolved oxygen usually gives rise to offensive odors. This is often noticed in certain lagooning installations.

POLLUTION DEFINED

What is pollution? This term is generally construed to mean the discharge of wastes into our streams, rivers or waterways in such quantities either by themselves or in connection with other wastes, so discharged, to cause damage to the general public, or persons having a right to use said waters for boating, fishing or other purposes, or those owning property in, under or bordering such a stream. The Water Pollution Control Law of Maryland defines pollution, and states that it means, "the discharge or deposit into any waters of the State of Maryland a solid substance or substances which may create a nuisance therein or render such waters unclean or noxious so as to be detrimental to the propagation, cultivation of animals, fish or aquatic life or unsuitable with reasonable treatment for use as present or possible future source of public water supply or unsuitable for commercial, industrial, agricultural, recreational or other reasonable uses."

The sanitary engineer in speaking of pollution problems uses the symbols B.O.D. and D.O. These are defined as follows:

B.O.D. — Bio-chemical Oxygen Demand — a measure of the amount of oxygen that is required to effect stabilization of the decomposed organic solids by aerobic bacteria.

D.O.—Dissolved Oxygen—the amount of uncombined oxygen in parts per million by weight found in a sample.

The first step in any waste treatment is to remove large solid particles such as skins, pods, vines, trimmings, cobs, husks and the like by means of 40 mesh screens. These materials may be dried and used for animal feeding or hauled from the plant for incorporation into the soil. The greatest problem is the removal of the colloidal and soluble compounds present in the waste after the screening operation. For each plant this is an individual problem and there is no set rule for treatment that can be applied in all cases.

Chemical precipitation may work very well, particularly for plants bordering rivers and streams which supply a reasonable flow of water for dilution purposes. Where small streams are involved, the use of trickling filters have at times been found efficacious. When there is sufficient ground available around or near a plant, lagooning has been found to be satisfactory. The objection to this treatment of waste is that a nuisance may be created in a community through the production of obnoxious odors resulting from the anaerobic decomposition of the organic solids.

When planning a water disposal plant it is advisable to secure the recommendations of the State Pollution Boards. Other technical assistance is available for plant design, maintenance and operation. It is of utmost importance today that the individual canner be prepared to solve his water disposal problem in order to avert controversy, litigation and possible fines.

Anaerobic Treatment of Cannery Waste

By R. A. CANHAM

National Canners Association Research Laboratories, Washington, D. C.

INTRODUCTION

Experimental work on anaerobic digestion of food canning wastes, predominantly tomato, has been carried on during each season for the past three years under the direction of Don E. Bloodgood, Professor of Sanitary Engineering, Purdue University, with the financial assistance of the Indiana Canners Association and technical assistance of the National Canners Association.

The results of laboratory studies initiated in 1947 were sufficiently encouraging to warrant further work on a larger scale. A pilot plant was constructed and operated at Ladoga, Indiana during the 1948 tomato season and the results of both years' work were reported at the Fourth Industrial Waste Conference at Purdue University (1, 2). The present report describes an extension of the previous work to a full-scale treatment plant during 1949.

A suitable location for the study was obtained at the Greenwood, Indiana plant of Stokely Foods, Inc., who offered their facilities and cooperation. An existing small pond previously used for sedimentation was operated as an anaerobic digester. Large holding lagoons were also available for subsequent storage and observation of the digester effluent.

The objectives of the study were:

1. To determine if full-scale, open-pond, anaerobic digestion of mixed tomato and lima bean wastes could be effected without objectionable odor development.
2. To determine the degree of purification effected by such anaerobic digestion with the view of determining whether the digester effluent could be (a) discharged directly to a stream and (b) discharged with no further treatment to holding lagoon without subsequent odor production.
3. To determine the reductions obtainable on lagoon storage of anaerobically digested waste.

DESCRIPTION OF PLANT AND EQUIPMENT

The Stokely plant at Greenwood packed whole tomatoes, tomato puree, and in considerable quantity, fresh lima beans. The tomato and lima bean season were concurrent although the lima bean pack extended somewhat longer than the tomato. Canning of these products extended over a period of 52 days.

All wastes passed over 16-mesh vibrating screens and thence to a small settling pond approximately 190 feet long, 95 feet wide, and 3.5 feet deep, holding approximately 475,000 gallons. The settling pond which had been used in previous years contained sludge to a depth of somewhat more than two feet and also wastes from peas and miscellaneous fruit preserves packed a few weeks prior to the start of the test period. This pond was used as the digestion unit with the accumulated sludge acting as the initial seed. Attention is called to the use of an open pond as an anaerobic digestion unit with reliance on the high oxygen demand of the waste serving to maintain anaerobic conditions.

The effluent from the digester was pumped into four lagoons operated in series with a total holding capacity of approximately 11,500,000 gallons. Average depth was 7 feet. The effluent from the digester was pumped into Lagoon No. 1. The flow through the lagoon system, including the controlled discharge from Lagoon No. 4 into the outlet ditch, was by gravity.

Figure 1. Mixing End of Digester Showing Raw Waste Passing Over Weir in Upper Left Center and Mixing Equipment in Center

A weir box and 90° V-notch weir were installed to obtain flow data for the raw screened waste entering the digestion unit. A Stevens water level recorder was mounted at the weir box, and continuous water level recordings were made on a 24 hour chart.

Agitation was provided by the installation of a heavy duty "Lightnin" mixer driven by a 3 h.p. motor. The mixer was set on a raft supported by empty oil drums and the raft anchored in place about midway between the side banks and some 10-12 feet from the end bank. The mixer had two 15 inch diameter impellers set 18 inches apart on the shaft, one being near the bottom of the digester and the other about mid-depth. The mixer was set at a slight vertical angle directed toward the far end of the digester and exerted a force downward and away from the the raft. The raw waste entered the digester at a point near the mixer. Figure 1 is a photograph of the lower end of the digester showing the installation of the mixer and the raw waste inlet.

OPERATION

The essential operative feature was agitation of the lagoon contents in order to provide contact between the sludge and the raw waste under conditions which did not involve control of sludge concentration or digester temperature. No attempt was made to control digester temperature since (a) to do so would add materially to the cost of plant construction and operation, and (b) most canning is done during the summer months when prevailing air and waste temperatures are high. The "Lightnin" mixer created a movement of the digester contents for somewhat more than half the length of the unit. As the contents were moved outward the raw waste was drawn toward the mixer providing rapid mixing. It would have been desirable to have provided more than one mixer in the digester in order to maintain the entire contents in motion. It is believed that three such mixers properly spaced would have been required.

Mixing was continuous except for one day when the shaft was burned out. As the season progressed it was felt that one mixer was inadequate and supplemental agitation was provided by the daily application of active stirring with an oar from a rowboat in the quiet section of the digester.

Flow calculations were made daily from the liquid level recorder. Samples of raw screened waste and digester effluent were collected at 30 minute intervals over a period of 12 to 18 hours per day in proportion to flow, and composited. Lagoon samples were collected at less frequent intervals from a number of stations around each lagoon. At the time each sample was collected data on air and waste temperatures, pH, odor, and visual observation were obtained. The following analytical determinations on daily composite samples were made by the Indiana State Board of Health Laboratory: 5-day B.O.D., total solids, total volatile solids, suspended solids, and volatile suspended solids.

After the first few days of operation visual evidence of digestion was apparent by constant upheavals throughout the digester with sludge rising to the surface along with gas. This action continued throughout the season.

RESULTS

Table 1 shows in tabular form the daily operational data. A study of the data indicates a raw waste flow variation of 11,520 to 371,550 gallons per day with an average of 160,220 gallons per day, equivalent to 111 gallons per minute. These figures cover the entire test period including non-canning days. On days of canning the raw waste flow varied from 39,180 to 371,550 gallons per day and averaged 188,340 gallons per day equivalent to 131 gallons per minute. Such fluctuations in flow are typical of can-

° Presented before the Fifth Industrial Waste Conference, Purdue University.

nery plant operations and impose difficulties in the interpretation of certain data related to flow.

Table 1 also shows the considerable variations in digester volume from day to day caused by fluctuations of incoming raw flow and inability of the digester effluent pump to handle sustained high flows. The average volume in the digester varied from 312,000 to 475,000 gallons with an average of 376,000 gallons.

The average air temperature varied from 49° F., to 81°F. while that of the raw waste ranged from 64°F. to 84°F. The average temperature of the digester contents varied from 60°F. to 75°F. The temperature of the digester was influenced to a greater extent by raw waste temperature than by air temperatures.

The pH data are also presented in Table 1. The pH of the raw waste varied from 6.3 to 7.5 with an average of 6.9. The pH of the digester effluent varied from 5.4 to 7.2, averaging 6.5.

The observations recorded in the column headed "Operations" exemplifies the non-continuous operations encountered which are typical of many canning plants.

The B.O.D. of the raw screened waste varied from 234 to 1,820 p.p.m. with an average of 982 p.p.m. The digester effluent ranged from 138 to 1,100 p.p.m. with and average of 599 p.p.m. The B.O.D. loading in the digester in pounds per day varied from 109 to 3,990 with an average of 1,975. In terms of pounds of B.O.D. per 1,000 cubic feet of digester, the range was 2.4 to 81.4 with an average of 33.9. The digester effluent varied from 81 to 3,136 pounds per day, with an average of 1,189 pounds per day. Digester detention time ranged between 1.0 to 8.3 days with an aveargе of 2.53 days.

The relationship between the pounds of B.O.D. in the influent and effluent of the digester is shown in Figure 2. The marked fluctuations in B.O.D.'s, volumes, and detention times are believed to account for the scattering of the points. Despite these conditions the straight line relationship shown between the digester influent and effluent is considered to be reasonably representative.

The solids data have been recalculated and presented in Table 2 along with digester B.O.D.'s in the form of average pounds per day for the entire test period. The resulting B.O.D. reduction through the digester was 39.8 percent, equivalent to 786 pounds per day, or 14.2 pounds per 1,000 cubic feet of digester per day. The average percentage reductions for total volatile solids, suspended solids, and volatile suspended solids were 31.3, 44.5 and 52.9 percent respectively. These values which represent oxidizable organic matter serve to confirm the B.O.D. reduction obtained.

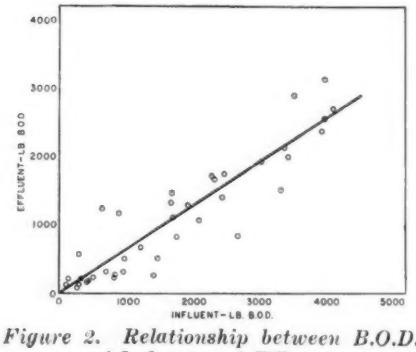


Figure 2. Relationship between B.O.D. of Influent and Effluent

Table 2. Summary of B.O.D. and Solids Data—Average Values

	Raw lb./day	Effluent lb./day	Reduction percent
5-day B.O.D.	1,975	1,189	39.8
Solids:			
Total	7,266	6,790	6.6
Total Volatile	4,051	2,782	31.3
Suspended	850	472	44.5
Volatile Suspended	482	227	52.9

There were a few isolated days when the odor from the digester was somewhat intense. However, on these days the odor was not noticeable beyond 500 feet. The data show nothing unusual to account for these odor intensities. On each occasion the digester odor rapidly abated to its former level of slight odor intensity.

The color of the digester liquid and sludge remained fairly constant, being very dark gray to black. A light growth of green scum developed toward the latter part of the operational period but no odor was associated with the scum.

Figure 3 presents the B.O.D. data of the raw screened waste and of the wastes contained in Lagoon Nos. 1 and 4. Excellent B.O.D. reductions were obtained with no objectionable odor development in any of the lagoons at any time. It will be noted that the major lagoon B.O.D. reduction occurred in Lagoon No. 1. During the course of the season, it became necessary to empty at a controlled rate most of the waste in Lagoon No. 4. The two periods when this was done are indicated by A and B. Stream surveys showed that the discharge was effected without damage to the receiving stream. The average B.O.D. of the raw screened waste was 982 p.p.m. The B.O.D. in Lagoon No. 1 on the last day of canning was 77 p.p.m. and in Lagoon No. 4 was 57 p.p.m, giving an over-all reduction of 94.2 percent.

DISCUSSION

The operation of the anaerobic digestion pond and storage lagoon effected a satisfactory treatment of mixed tomato and lima bean wastes at this plant without objectionable odor development. In the previous year treatment was by lagooning with the addition of sodium nitrate for odor control. While the nitrate dosage rate per 1,000 cases of No. 2 cans packed is known, the percentage of B.O.D. satisfied by nitrate oxygen is unknown. A comparison between the 1948 and 1949 performance with respect to odor complaints and operating costs is

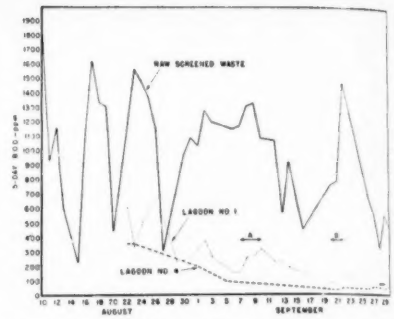


Figure 3. B.O.D. Comparisons of Raw and Lagooned Wastes. (For significance of "A" and "B", see text.)

of interest bearing in mind that the 1948 packing season was somewhat larger.

No complaints of objectionable odor were received in 1949 in comparison with several during the same period in 1948. On the basis of using the same sodium nitrate dosage rate in 1949 as was used in 1948, the nitrate would have cost $6.48 per 1,000 cases of No. 2 cans packed. The cost of the one mixer and raft used and installation of these amortized over the 5-year period plus power operating costs amounted to a cost of $1.06 per 1,000 mixing units been installed the cost would have been raised to $2.82 per 1,000 cases No. 2 cans packed, which would have been only approximately 40 percent of that of sodium nitrate treatment.

In any evaluation of the described open-pond anaerobic digestion and lagoon treatment system, certain favorable conditions which may not be present in another installation during the first year of operation must be recognized. The digestion pond contained an abundance of sludge from previous years and wastes from the packing of other products a few weeks earlier. The lagoons likewise were seeded with flora from previous years and contained wastes from earlier 1949 canning operations.

The anaerobic digester effluent was not of a quality to permit direct discharge to a stream. The digester effluent followed by lagoon storage could have been discharged to a municipal plant for secondary treatment after several weeks storage with a B.O.D. concentration comparable to that of settled domestic sewage. The storage period which would permit continuous discharge to a stream would depend upon the stream standards with which compliance would have to be made.

Some question may be raised concerning whether conditions prevailing in the open pond digester represented anaerobic conditions. Exposure to air of the waste with a constant zero oxygen concentration and under a mild degree of turbulence necessarily resulted in the absorption of considerable oxygen. Nevertheless, the high oxygen demand of the waste exceeded the rate of reaeration as shown by the inability to detect any dissolved oxygen. It appears reasonable to refer to this particular open pond diges-

(Continued on page 20)

Table 1 -- DAILY OPERATIONAL DATA

Date	Sample Description	Operations	Total Flow gal.	Average Temperature Raw ° F.	Average Temperature Digester ° F.	Average pH Raw	Average pH Effluent	5-Day B.O.D. p.p.m.	Total Solids p.p.m.	Total Volatile Solids p.p.m.	Suspended Solids p.p.m.	Suspended Volatile Solids p.p.m.
August 11	Raw	Tomatoes and Lima Beans	212,160	.....	.....	.....	.....	930	3,130	1,400	450	340
	Digester Effluent	.....	.....	.....	.....	.....	.....	830	2,120	1,080	230	170
12	Raw	Tomatoes and Lima Beans	257,133	.....	.....	.....	.....	1,160	2,697	1,954	552	420
	Digester Effluent	.....	.....	.....	.....	.....	.....	820	2,333	1,419	248	220
13	Raw	Tomatoes and Lima Beans	177,900	.....	.....	.....	.....	605	1,733	1,352	352	260
	Digester Effluent	.....	.....	.....	.....	.....	.....	765	2,249	1,273	240	184
14	.....	No Operations	26,280	.....	.....	.....	.....	.....	.....	.....	.....	.....
15	Raw	Lima Beans	72,150	.....	.....	.....	.....	234	1,315	920	284	132
	Digester Effluent	.....	.....	.....	.....	.....	.....	358	972	684	184	80
16	Raw	Tomatoes and Lima Beans	206,580	.....	.....	.....	.....	1,120	3,587	2,444	476	304
	Digester Effluent	.....	.....	.....	.....	.....	.....	750	2,591	1,268	100	100
17	Raw	Tomatoes and Lima Beans	295,605	.....	.....	.....	.....	1,620	3,556	2,345	600	112
	Digester Effluent	.....	.....	.....	.....	.....	.....	1,000	2,560	1,138	252	46
18	Raw	Tomatoes and Lima Beans	315,765	.....	.....	.....	.....	1,340	3,174	1,670	536	89
	Digester Effluent	.....	.....	.....	.....	.....	.....	1,100	3,115	1,275	248	49
19	Raw	Tomatoes and Lima Beans	365,850	.....	.....	7.1	6.8	1,310	2,840	2,070	416	81
	Digester Effluent	.....	.....	.....	.....	.....	.....	1,030	3,385	2,484	160	33
20	Raw	Lima Beans	173,250	.....	.....	7.1	6.3	445	2,748	1,819	228	43
	Digester Effluent	.....	.....	.....	.....	.....	.....	860	3,908	1,872	212	42
21	.....	No Operations	47,190	.....	.....	.....	.....	.....	.....	.....	.....	.....
22	Raw	Lima Beans	174,960	.....	.....	6.5	7.0	775	2,343	1,900	252	184
	Digester Effluent	.....	.....	.....	.....	.....	.....	460	1,993	1,668	114	50
23	Raw	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Digester Effluent	Tomatoes and Lima Beans	256,680	.....	.....	7.0	6.5	1,560	4,508	2,148	520	412
	.....	.....	.....	.....	.....	.....	.....	710	3,310	1,441	196	172
24	Raw	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Digester Effluent	Tomatoes and Lima Beans	275,205	.....	.....	6.5	5.4	1,480	3,645	2,744	392	300
25	Raw	.....	.....	.....	.....	.....	.....	935	4,024	2,449	312	228
	Digester Effluent	Tomatoes and Lima Beans	199,740	.....	.....	.....	.....	1,375	3,574	1,792	424	340
	.....	.....	.....	.....	.....	.....	.....	1,030	3,391	1,107	312	212
26	Raw	Tomatoes and Lima Beans	241,500	.....	.....	6.8	6.2	1,160	3,645	3,216	396	312
	Digester Effluent	.....	.....	.....	.....	.....	.....	830	3,446	932	260	176
27	Raw	Lima Beans	115,800	.....	.....	7.2	6.5	310	2,510	2,251	240	148
	Digester Effluent	.....	.....	.....	.....	.....	.....	590	3,427	1,815	248	164
28	.....	No Operations	45,720	.....	.....	.....	.....	.....	.....	.....	.....	.....
29	.....	No Operations	35,820	.....	.....	.....	.....	.....	.....	.....	.....	.....
30	Raw	Tomatoes and Lima Beans	216,720	79	71	7.1	7.2	975	2,798	1,658	356	188
	Digester Effluent	.....	.....	.....	.....	.....	.....	453	2,659	1,254	388	228
31	Raw	Tomatoes and Lima Beans	242,640	79	70	6.6	6.4	1,090	3,651	1,437	568	364
	Digester Effluent	.....	.....	.....	.....	.....	.....	530	2,768	792	228	136
Sept. 1	Raw	Tomatoes and Lima Beans	196,200	77	70	.....	.....	1,040	4,439	2,095	596	332
	Digester Effluent	.....	.....	.....	.....	.....	.....	680	3,304	2,166	384	184
2	Raw	Tomatoes and Lima Beans	228,960	81	74	6.6	6.4	1,280	4,870	2,097	652	344
	Digester Effluent	.....	.....	.....	.....	.....	.....	740	5,076	1,273	356	144
3	Raw	Lima Beans	304,650	79	74	6.9	6.1	1,200	4,140	1,867	648	342
	Digester Effluent	.....	.....	.....	.....	.....	.....	760	5,757	1,331	368	176
4	.....	No Operations	81,365	.....	.....	.....	.....	.....	.....	.....	.....	.....
5	.....	No Operations	91,195	.....	.....	.....	.....	.....	.....	.....	.....	.....
6	Raw	Tomatoes and Lima Beans	280,125	79	72	7.0	6.4	1,150	5,072	4,074	724	432
	Digester Effluent	.....	.....	.....	.....	.....	.....	360	4,075	908	264	152
7	Raw	Tomatoes and Lima Beans	352,750	82	73	6.5	6.4	1,170	4,820	3,832	592	356
	Digester Effluent	.....	.....	.....	.....	.....	.....	680	4,989	1,163	228	128
8	Raw	Tomatoes and Lima Beans	360,870	79	71	6.7	6.4	1,310	5,301	1,945	608	380
	Digester Effluent	.....	.....	.....	.....	.....	.....	790	5,420	4,076	244	132
9	Raw	Tomatoes and Lima Beans	371,550	77	71	6.5	6.1	1,330	5,803	1,853	586	360
	Digester Effluent	.....	.....	.....	.....	.....	.....	875	5,262	1,116	220	132
10	Raw	Tomatoes and Lima Beans	185,040	76.5	71	6.6	6.1	1,090	3,055	1,812	468	268
	Digester Effluent	.....	.....	.....	.....	.....	.....	860	5,419	1,639	1,220	484
11	.....	No Operations	64,000	.....	.....	.....	.....	.....	.....	.....	.....	.....
12	Raw	Tomatoes and Lima Beans	159,060	80	71	7.0	6.8	1,070	5,632	1,832	372	64
	Digester Effluent	.....	.....	.....	.....	.....	.....	193	3,871	989	200	164
13	Raw	Tomatoes and Lima Beans	107,640	84	75	6.9	6.6	1,090	2,199	1,426	388	232
	Digester Effluent	.....	.....	.....	.....	.....	.....	560	2,753	1,102	264	160
14	Raw	Tomatoes and Lima Beans	126,090	80	70	7.0	6.5	920	3,406	1,595	276	224
	Digester Effluent	.....	.....	.....	.....	.....	.....	294	2,951	778	160	150
15	Raw	Tomatoes and Lima Beans	78,300	75	70	6.7	6.5	666	3,835	3,490	452	276
	Digester Effluent	.....	.....	.....	.....	.....	.....	281	3,556	1,583	328	204
16	Raw	Lima Beans	132,000	64	62	7.5	6.7	462	5,311	2,053	236	192
	Digester Effluent	.....	.....	.....	.....	.....	.....	203	3,523	1,773	132	64
17	Raw	Lima Beans	157,440	80	70	6.3	6.5	535	10,457	4,307	280	216
	Digester Effluent	.....	.....	.....	.....	.....	.....	240	4,690	2,910	224	160
18	.....	No Operations	25,610	.....	.....	.....	.....	.....	.....	.....	.....	.....
19	Digester Effluent	Fruit Preserves	73,140	70	69	7.1	6.7	138	3,234	2,901	648	160
20	Raw	Lima Beans	131,565	69	63	6.8	6.6	760	7,536	3,904	284	214
	Digester Effluent	.....	.....	.....	.....	.....	.....	222	5,754	3,618	316	228
21	Raw	Tomatoes and Lima Beans	127,980	76	68	6.9	6.7	790	4,607	1,479	264	220
	Digester Effluent	.....	.....	.....	.....	.....	.....	250	6,311	1,058	244	.....
22	Raw	Tomatoes and Lima Beans	120,420	78	72	7.0	6.8	1,470	7,019	5,308	712	368
	Digester Effluent	.....	.....	.....	.....	.....	.....	505	6,825	1,390	276	140
23	.....	Fruit Preserves	109,650	76	68	6.7	6.5	.....	.....	.....	.....	.....
24	.....	No Operations	20,640	.....	.....	.....	.....	.....	.....	.....	.....	.....
25	.....	No Operations	11,520	.....	.....	.....	.....	.....	.....	.....	.....	.....
26	Raw	Lima Beans	47,100	68	66	7.0	6.7	690	8,939	1,812	300	196
	Digester Effluent	.....	.....	.....	.....	.....	.....	207	5,203	2,413	240	.....
27	Raw	Lima Beans	62,880	68	66	7.0	6.7	570	8,142	1,968	308	172
	Digester Effluent	.....	.....	.....	.....	.....	.....	250	5,508	1,502	196	92
28	Raw	Lima Beans	39,180	70	70	7.0	6.7	333	6,008	760	360	144
	Digester Effluent	.....	.....	.....	.....	.....	.....	375	3,045	916	324	196
29	Raw	Lima Beans	88,920	74	60	7.0	6.8	560	2,159	996	204	124
	Digester Effluent	.....	.....	.....	.....	.....	.....	236	5,175	658	224	120
30	Raw	Lima Beans	80,945	76	64	7.0	6.7	480	2,500	1,003	280	164
	Digester Effluent	.....	.....	.....	.....	.....	.....	315	4,299	803	252	152

FROZEN FRUIT & VEGETABLE PACKS

Aggregate U. S. production of frozen fruits, berries, juices and vegetables reached a new peak in 1949, according to statistics released April 25 by the National Association of Frozen Food Packers.

The combined fruit and vegetable pack last year was nearly 918 million pounds—12 percent greater than the 816 million pounds packed in 1948. The 1949 pack of these products was the second largest on record, exceeded only by the 1946 pack of 969 million pounds. If frozen concentrated juices are added in, the 1949 pack set a new record, with plenty to spare. The pack of frozen orange concentrate alone was 12,196,035 gallons last year—nearly 5 times as great as the approximate 2½ million gallons produced during 1947-48.

1949 FRUIT PACK DOWN 5 PERCENT

The 1949 fruit pack was 354 million pounds, down 5 percent from 1948. The pack of strawberries declined sharply and r.s.p. cherry production was off moderately from 1948—and these important reductions were not entirely offset by significant pack increases reported for many other products.

Some change in the regional pattern of production was indicated in 1949. In the West and in the Northeast, the packs represented a slightly larger percentage of the total in 1949 than in 1948; in the South and in the Midwest, the opposite was true.

Container-size usage showed slight change last year. While retail sizes represented about 20 percent of the total fruit pack both in 1948 and 1949, the packed in 30 pound sizes increased and the pack in barrels declined.

FROZEN FRUIT AND BERRY PACK OF RECENT YEARS

Product	1944 *Pounds*	1945 *Pounds*	1946 *Pounds*	1947 *Pounds*	1948 Pounds	1949 *Pounds*
Apples	52,390,891	81,040,423	62,369,063	28,401,942	27,551,778	52,268,300
Applesauce	(a)	11,944,983	15,850,804	171,755	(a)	(a)
Apricots	42,616,708	65,158,052	43,571,459	6,006,617	2,476,949	2,086,480
Cherries, RSP	55,058,949	16,143,827	88,061,401	67,001,731	87,797,699	70,988,702
Cherries, Sw.	.....	10,297,540	7,830,513	357,414	664,163	2,965,067
Grapes & Pulp.	.....	10,184,722	12,444,690	20,974,821	5,510,983	3,118,863
Peaches	45,562,689	103,634,388	65,140,192	27,034,119	13,598,338	23,234,608
Pineapple	.....	3,321,330	23,006,098	.....	.....	.....
Prunes	18,097,764	18,368,454	14,106,368	2,842,548	2,125,326	5,296,709
BERRIES:						
Blackberries	16,173,214	21,503,229	19,750,261	14,509,543	9,745,426	15,186,080
Blueberries	4,962,721	7,828,944	10,240,067	5,406,636	7,660,830	14,035,654
Boysenberries	4,194,318	7,084,067	10,905,107	12,495,410	8,832,472	14,089,130
Currants	4,820,205	2,667,567	4,219,292	4,089,237	3,879,824	2,541,235
Gooseberries	1,646,307	1,557,955	1,430,389	93,040	44,000	44,152
Loganberries	3,098,304	2,522,402	3,016,866	2,299,021	4,174,095	3,386,009
Raspberries, B.	5,622,655	3,477,316	5,516,365	7,115,935	4,518,975	6,154,597
Raspberries, R.	13,117,060	13,254,453	23,904,626	25,401,301	23,197,984	25,682,121
Strawberries	34,825,459	36,916,743	78,059,148	109,035,621	160,077,403	107,599,757
Youngberries	2,477,442	2,550,634	1,765,577	1,160,999	662,761	626,159
Misc. F. & B.	19,221,668	10,719,516	32,092,915	9,123,056	7,203,635	4,717,039
Total	323,886,354	430,176,545	523,281,201	343,519,846	369,722,641	354,020,662

(a) Included with Apples.

Note: Summarized pack totals do not include frozen single-strength citrus juices and puree nor frozen concentrated orange juice.

1949 VEGETABLE PACK INCREASED 26 PERCENT

The 1949 vegetable pack set a new record high—563½ million pounds—26 percent greater than the 1948 total. Although the pack of peas dropped slightly, practically all other items showed significant increases over 1948. The pack increases reported for broccoli, Brussels sprouts, cauliflower, and spinach were especially great.

On the whole, container-size usage did not change significantly in 1949. Retail sizes accounted for about 64 percent of the total and small institutional sizes represented about 19 percent of the pack—approximately the same as in 1948.

The pattern of regional production shifted slightly last year. The percentage of the total vegetable pack put up in the West advanced from about 54 percent in 1948 to about 58 percent last year, while both in the East and South and in the Midwest, the packs represented about 2 percent less of national production than the year before.

FROZEN VEGETABLE PACKS OF RECENT YEARS

Item	1944 Pounds	1945 Pounds	1946 Pounds	1947 Pounds	1948 Pounds	1949 *Pounds*
Asparagus	12,339,171	20,637,590	28,316,074	10,737,171	18,321,209	18,422,240
Beans, Gr.-Wx.	23,752,999	31,460,363	40,974,804	30,910,825	49,583,305	58,523,477
Beans, Lima	29,549,528	28,475,697	50,082,682	68,194,194	75,403,478	87,949,043
Broccoli	6,839,582	11,655,577	25,788,855	9,117,383	29,126,046	45,233,194
Brussels Sp.	4,919,560	6,606,310	13,521,280	4,556,871	10,525,837	23,454,790
Carrots	903,284	6,050,973	9,069,314	2,904,551	15,392,980	12,750,595
Cauliflower	4,820,680	7,391,186	18,236,775	5,353,479	13,962,515	21,655,312
Corn—cut	20,982,900	25,551,366	42,426,691	26,559,146	20,919,820	37,976,067
Corn-on-Cob	605,790	445,388	2,295,656	6,064,362	10,323,649	17,563,225
Peas	79,152,398	103,833,553	140,602,919	131,785,783	118,976,557	113,273,030
Peas & Car.	2,086,073	5,321,591	7,186,108	5,301,871	6,509,812	8,096,642
Pump. & Sq.	10,002,144	7,353,584	10,008,776	5,189,688	5,577,184	8,336,914
Rhubarb	4,365,920	6,851,526	10,566,207	1,537,566	2,629,021	4,212,197
Spinach	31,947,367	36,720,643	38,185,104	23,279,294	41,571,318	62,306,960
Succotash	1,112,298	1,756,961	3,409,548	3,762,669	6,879,195	8,290,408
Misc.	3,712,773	7,865,052	14.329,410	10,953.244	20,655,607	36,354,903
Total	237,092,417	307,977,360	450,000,203	346.208,097	446,357,533	563,498,997

REVISION OF FROZEN BROCCOLI GRADES PROPOSED

Proposed revisions in the U. S. Standards for Grades of frozen broccoli were published in the Federal Register of April 20. If made effective, this will be the second issue of grades for this product.

Interested persons who wish to submit data regarding the proposed revision should file the same in duplicate with the Chief, Processed Products, Standardization and Inspection Division, Fruit and Vegetable Plants, Production and Marketing Administration, U. S. Department of Agriculture, Washington 25, D. C., not later than May 20.

FROZEN SHRIMP INSPECTION

In response to numerous requests, the Food and Drug Administration on April 21, issued proposed regulations that provide for the inspection and certification of canned, frozen and iced shrimp. Under present regulations, only the canned item is covered. Under the proposed regulation a twelve month inspection period would be established to begin on July 1 of the year and to end on June 30 of the following year. During this period, the inspection service would apply to all shrimp handled and packed. Labels on shrimp packed and certified under the proposed regulations may bear inspection legends. Total cost of the service remains unchanged. Fees are to be payable in 12 monthly installments of $400. Applications for shrimp inspection are to be submitted after 1950 by May 1 preceding the inspection period accompanied by a $400 deposit. This deposit will constitute the first of the 12 monthly payments.

As the greater portion of packs of canned shrimp are in 8 ounce short cans (211 x 300), for the purposes of these regulations, a case will be 48 cans of this size or its equivalent. Case fee will be 11 cents per case. Interested persons are invited to submit comments and suggestions re the proposed regulation in writing to Food and Drug, Federal Security Building, Independence Avenue & Fourth Street, Southwest, Washington 25, D. C., by May 15, 1950. Packers who contemplate applying for this new service are requested to state their interest by letter which should state the anticipated size of the pack in terms of cases of canned shrimp and of pounds of frozen or ice raw headless, raw peeled, and cooked peeled shrimp during the 12 months beginning July 1. This will permit Food and Drug Administration to estimate the demand for the expanded inspection service and will in no way be binding on the packer.

If a substantial portion of the industry evidences a desire for the expanded service, the Federal Security Agency will then formulate the regulations in final form, promulgate them for the guidance of packers and inspectors.

CROWN'S 3 POINT PLAN

TO HELP YOU INCREASE YOUR BUSINESS

Asking questions never hurt anyone, so why not ask about Crown Can's three part plan of helping you build a bigger business. Here it is . . . .

1 A BETTER PLANT

Crown maintains an Expert Engineering Layout and Efficiency Service which can help you improve your Plant. Ask about it.

2 A BETTER FOOD

Crown maintains a Laboratory Control Service, manned by expert chemists, which can help you maintain or improve the quality of your product. Ask about it.

3 MORE CASES TO MARKET

More production to sell. Crown has a Closing Machine Service and a Laboratory Field Service to help you keep your Plant in steady operation. Ask about them.

★ *Questions gladly answered—ask to have a Crown Sales representative call and explain Crown Services to you.*

CROWN CAN

One of America's Largest Can Manufacturers

Plants at Philadelphia, Chicago, Orlando. Branch Offices: New York, Baltimore, Pittsburgh, St. Louis • Division of the Crown Cork & Seal Company

NEWS AND PERSONALS

NCA BUILDING DEDICATION

Some 500 executives of the canning and allied industries will attend the dedication ceremonies of National Canners Association's new million dollar research and administrative headquarters in Washington on June 8.

The building, a large three-story structure, for which ground was broken last May, will be open for inspection all that day. Ceremonies at the new site—1133 - 20th Street, Northwest—will include the turning over of the keys to NCA President Henry P. Taylor, by the Building Committee, and the unveiling of an oil portrait of Frank E. Gorrell, Founding Secretary.

Final observance of the occasion will be a special luncheon at the Mayflower Hotel, where Dr. C. G. King of New York City, Scientific Director of the Nutrition Foundation, will deliver the dedication speech.

CANCO TO BUILD IN CANADA

American Can Company will soon begin the construction of a new plant at Chatham which will greatly benefit the canners throughout Southern Ontario. Built on a tract of approximately 50 acres along the Kingshighway No. 2, and containing approximately 185,000 square feet, manufacturing facilities of the new plant will be used exclusively for the production of food cans, with an annual capacity of more than 300 million cans. The Chatham plant will become the sixth container manufacturing operation in Canada for Canco. Other plants are located at Simcoe, Hamilton, Vancouver, Montreal and Charlottetown, P.E.I.

MEXICO SEIZES SHRIMP BOATS

Claiming that the boats were fishing in Mexican territorial waters, five Texas shrimping trawlers were seized by a Mexican Government gunboat on Sunday, April 23, and taken into the Tampico, Mexico harbor on Monday morning. The boats were out of Port Isabel and Port Brownsville.

The incident was described by officials as the first such action in about 18 months. Earlier there had been action involving the Mexican authorities and American fishermen. Mexico claims its territorial waters extend nine miles at sea. However, the United States refuses to accept this Mexican claim and has informed the Mexican government in the past that the United States reserves all rights beyond the traditional three mile limit.

Gulf Coast fishing company executives are protesting the seizure in an effort to obtain release of the craft.

STOKELY PLANT MANAGER

Harry Good, former plant manager of the Hoopeston, Illinois plant of Stokely-Van Camp, has been made Assistant District Production Manager covering Stokely's operations in Indiana and Illinois. He will be succeeded at Hoopeston by Harry Holtkamp, who for 18 years was Manager of the Milford (Ill.) Canning Company plant.

MAINE SARDINE FILM ON TELEVISION

It's the Maine Sardine, the motion picture produced by the Fish and Wildlife Service in cooperation with the Maine Sardine Packers Association and the Maine Department of Sea and Shore Fisheries, was televised on April 15, over stations WJZ-TV, New York City and WBEN-TV, Buffalo, N. Y.

CONTINENTAL DIVIDEND

Continental Can Company will pay the second quarter interim dividend of 40 cents per share on its common stock on June 15 to stockholders of record May 25. Holders of the $3.75 cumulative preferred stock will be paid the regular quarterly dividend of 93¾ cents a share on July 1 to holders of record June 15.

DEWEY SIGNS CITY TAX BILL

Governor Dewey, on April 21, signed the New York City Tax Bill (Griffith Bill 1751), which now removes the objections processors and other businesses have voiced in the past over the attempts which were being made by the City of New York to collect the tax from firms not maintaining offices, sales staffs or warehouse stocks within the City.

JERSEY CANNER APPOINTS BROKERS

In celebration of their 25th year in the canning business, and in an expansion program for wider distribution, Pappas Brothers & Gillies Company, Egg Harbor City, New Jersey, canners of cultivated blueberries and cranberry sauce, has announced the appointment of the following brokers on an exclusive basis: Chicago: Alvin H. Livingston & Company; New England States: A. W. McAdam Company, Boston, Massachusetts; Northern Pennsylvania: Delbert Craig Company, Wilkes-Barre, Pennsylvania; Cleveland: Arthur M. Jones; Youngstown, Ohio: Ralph O. Drury Company.

RICHTER HEADS VINEGAR GROUP

Oscar A. Richter, President of A. M. Richter Sons Company, Manitowoc, Wisconsin, was elected President of the newly formed Cider Vinegar Institute at a meeting in Chicago, April 13.

Other officers elected are: Charles M. Kemper, President of Speas Company, Kansas City, Missouri, Vice-President; Grover C. Steffen, M. Steffen & Company, Inc., Chicago, Treasurer; and Harry P. Dolan, Secretary.

Directors elected are: Paul M. Johnson, Alton Vinegar Company, Alton, Illinois; J. A. Rowse, New England Vinegar Works, Littletown, Massachusetts; and J. P. Arthur, Shenandoah Apple Cider & Vinegar Corporation, Winchester, Virginia.

Theodore R. Sills & Company have been retained for public relations work.

ALAMO INCORPORATES

John M. Burkhart, W. J. Carter and T. E. Stinson have incorporated the Alamo Products Company at Alamo, Texas for $150,000 and will operate a canning business.

GAIR DIVIDEND

The regular quarterly dividend of 30 cents per share on preferred stock of the Robert Gair Company will be payable on June 10 to stockholders of record May 19. Quarterly dividend of 10 cents per share will be paid on the common stock of the company on June 10 to stockholders of record May 19.

VERDON F. FARMER

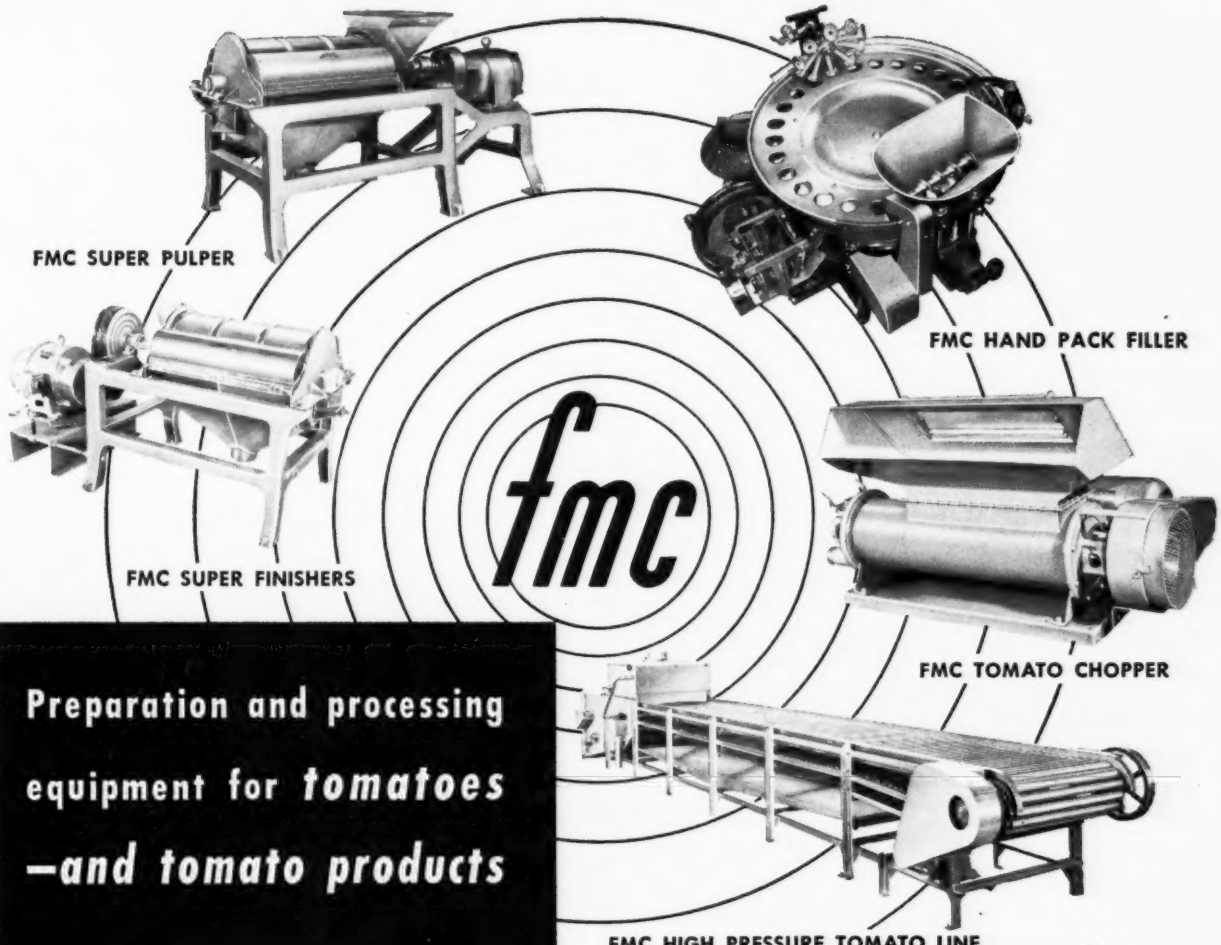
Verdon F. Farmer, who at various times operated canning plants at Mt. Pleasant, Wapella, Audubon and Story City, Iowa, but in recent years disposed of these interests with the exception of the cannery at Story City, died at Tucson, Arizona on Tuesday evening, April 18.

Mr. Farmer was a son of the late S. T. Farmer, pioneer Iowa-Nebraska canner, and a brother of J. LeRoy Farmer, an extensive Mid-West vegetable packer, now retired.

CHAIN TO EXPAND

Grand Union Co. this week announces plans for speeding up the opening of new super market units in its Eastern grocery chain.

The company recently doubled the size of its main grocery warehouse, which is located in Carlstadt, New Jersey.



Preparation and processing equipment for *tomatoes —and tomato products*

FMC's extensive and complete line of expertly engineered equipment embraces every phase in the preparation and processing of tomatoes and tomato products. Specially designed and built in accordance with modern flow line techniques, this high quality FMC equipment meets every requirement in handling tomatoes fresh from the field until they are fully processed and sped to markets. FMC's experienced engineering staff is available at all times to assist canners and processors in finding the solution to specific problems. You are invited to avail yourself of this valued FMC service.

Write for full information on this outstanding FMC equipment, or call your nearest FMC representative.

OTHER FMC EQUIPMENT FOR TOMATOES AND TOMATO PRODUCTS

- CONTINUOUS JUICE PROCESSORS
- JUICE EXTRACTORS
- UNIVERSAL JUICE STRAINER
- TURBINE DRIVE JUICE STRAINER
- MODEL 15 TOMATO WASHER
- FLOOD TYPE WASHERS
- PAN OR BOX WASHER
- COMBINATION PEELING TABLE
- LOW PRESSURE TOMATO LINE
- FILLERS (Hand Pack, Juice, Vacuum, Plunger Type, Utility)
- CONSISTOMETER
- CONTINUOUS COOKERS AND COOLERS (Pressure and Atmospheric)
- HEATING COILS
- ROLLER INSPECTION TABLES
- AUTOMATIC BOX AND STACKED BOX DUMPERS
- SCALDERS

First in Diversified Food Equipment

fmc FOOD MACHINERY AND CHEMICAL CORPORATION

FOOD MACHINERY AND CHEMICAL CORPORATION

Canning Machinery Divisions

General Sales Offices:

EASTERN: HOOPESTON, ILLINOIS **WESTERN:** SAN JOSE 5, CALIFORNIA

MARKET NEWS

WEEKLY REVIEW

THE SITUATION—The weather and statistics came in for a good bit of attention during the week as the spring continued somewhat late in most areas and statistics on prospective acreage and canner's stocks and shipments on a number of items, made their appearance on both a national and regional scale. Meanwhile asparagus and spinach packs in the East remained in low gear due to the cool weather, sardine canneries in Maine remained closed due to complete absence of fish runs, salmon canners were busy negotiating with the many unions in preparation for the coming pack, and the citrus situation became even more muddled as prices weakened further in an effort to ease the stiff resistance of buyers.

STATISTICS—While movement from canners' hands all down the line was exceptionally good, the statistical limelight was stolen by peaches and corn. Shipments of 3,621,000 cases of corn were the greatest March shipments on record, and the nearly 10 million cases shipped the first quarter established another record. While on the subject of records, it's well to point out, also, that April 1 stocks of 14,695,000 cases are also an all time record. 5,817,000 cases were moved last year from April 1 to August 1. Like shipments this year would leave an 8,878,000 case carryover. We may be a little high now but we are not changing our estimate of the probable carryover from the 7 to 8 million cases estimated last month.

Some idea of the pace of canned foods' sales can be obtained when the record March pea shipments of 2,619,000 cases are considered in the light of the corn movement. Beans also set a new March record at 1,364,000 cases. The stock position of this item has worked down to a safe level now. Tomatoes is the one item that doesn't seem to want to move, but tomato products, especially juice and catsup, are making up for the main dish.

Fruit stocks are discussed by our California reporter but we would emphasize the exceptionally heavy movement of peaches the second month in a row. Shipments during February were but 22,000 cases short of the March handle.

Stocks of apples were reduced by April 1 to 1,316,222 cases basis 10's by March shipments of 442,129 cases same basis. Actual cases of sauce April 1 amounted to 2,571,688 while March shipments were 675,326 cases. R.S.P. cherry stocks were reduced to 432,396 actual cases by March shipments of 266,793 cases compared to April 1, 1949 stocks of 151,881 and March '49 shipments of 128,638 cases. April 1 sweet cherry stocks were 489,000 cases basis 24/2½'s compared to 119,000 a year ago, while March shipments for 1950 equalled 106,000 cases and 42,000 cases in 1949.

Pumpkin and squash stocks were all but exhausted on April 1 at 192,532 actual cases compared to 1,148,621 cases April 1, 1949. April 1 chili sauce stocks of 935,438 cases were also considerably under the 1,765,595 cases April 1 a year ago.

Other acreage and stock figures issued during the week:

APRIL 1 ACREAGE INTENTIONS

Source: U.S.D.A., Bureau of Agricultural Economics

TOMATOES FOR PROCESSING

State	1950 indicated	As percent of planted: 10-year average 1939-48	1949
	Acres	*Percent*	
New York	21,800	91	110
New Jersey	25,600	72	108
Pennsylvania	19,300	69	92
Ohio	23,000	80	105
Indiana	95,900	100	130
Illinois	10,900	100	117
Michigan	8,200	118	99
Wisconsin	1,800	97	112
Iowa	1,700	44	106
Missouri	6,400	45	86
Delaware	9,500	86	106
Maryland	36,400	70	125
Virginia	16,500	58	110
South Carolina	3,600	148	120
Florida	3,000	93	103
Kentucky	2,100	42	78
Tennessee	3,300	48	110
Arkansas	8,100	43	85
Oklahoma	1,300	65	76
Texas	17,500	105	106
Colorado	3,300	76	103
Utah	7,400	96	114
California	79,000	74	105
Other States[1]	3,800	72	158
U. S. Total	409,400	78.6	111.1

[1] Alabama, Arizona, Connecticut, Georgia, Idaho, Kansas, Louisiana, Minnesota, Mississippi, Nebraska, New Mexico, North Carolina, Oregon, Washington, and West Virginia.

BEETS FOR CANNING

State	1950 indicated	As percent of planted: 10-year average 1939-48	1949
	Acres	*Percent*	
New York	4,200	89	89
New Jersey	800	138	94
Michigan	1,300	112	103
Wisconsin	7,900	157	100
Oregon	2,000	128	108
Other States[1]	3,000	99	128
U. S. Total	19,200	119.3	101.6

[1] California, Colorado, Illinois, Indiana, Iowa, Louisiana, Maine, Maryland, Minnesota, Mississippi, Ohio, Pennsylvania, Tennessee, Texas, Utah, and Washington.

CANNERS SUPPLY, STOCKS AND SHIPMENTS

Compiled by N.C.A. Division of Statistics

GREEN AND WAX BEANS	1948-49	1949-50
	(actual cases)	
Carryover, July 1	218,582	329,031
Pack	14,133,205	19,302,855
Total Supply	14,351,787	19,631,886
Stocks, April 1	1,518,633	4,023,198
Shipments during March	746,805	1,363,521
Ship., July 1 to April 1	12,833,124	15,608,688
CANNED SWEET CORN		
Carryover, August 1	194,469	4,122,712
Pack	34,410,040	33,138,318
Total Supply	34,604,509	37,251,030
Stocks, April 1	9,930,430	14,695,082
Shipments during March	2,679,090	3,621,133
Ship., August 1 to April 1	24,674,079	22,555,948
CANNED TOMATOES		
Carryover, July 1	1,949,713	2,718,555
Pack	21,466,688	18,873,672
Total Supply	23,416,401	21,592,227
Stocks, April 1	6,015,093	4,614,439
Shipments during March	1,663,530	1,617,757
Ship., July 1 to April 1	17,401,308	16,977,788
CANNED TOMATO JUICE		
Carryover, July 1	3,578,479	5,740,779
Pack	23,701,199	20,559,673
Total Supply	27,279,678	26,300,452
Stocks, April 1	10,892,946	8,061,390
Shipments during March	1,923,404	2,209,587
Ship., July 1 to April 1	16,386,732	18,239,062
TOMATO CATSUP		
Carryover, July 1	3,572,534	6,346,423
Pack	16,897,211	10,900,407
Total Supply	20,469,745	17,246,832
Stocks, April 1	8,745,456	4,686,905
Ship., Jan. through March	4,650,994	4,162,682
Ship., July 1 to April 1	11,724,289	12,559,927

CANNED APRICOTS	1948-49	1949-50
	(Cases—Basis 24/2½'s)	
Carryover, June 1	706,000	1,522,000
Pack	4,767,000	2,375,000
Total Supply	5,473,000	3,897,000
Stocks, April 1	2,152,000	954,000
Shipments during March	298,000	241,000
Ship., June 1 to April 1	3,321,000	2,943,000
CANNED PEACHES		
Carryover, June 1	1,877,000	3,518,000
Pack	17,381,000	19,134,000
Total Supply	19,258,000	22,652,000
Stocks, April 1	5,721,000	6,806,000
Shipments during March	1,398,000	1,838,000
Ship., June 1 to April 1	13,537,000	15,846,000
CANNED PEARS		
Carryover, June 1	793,000	788,000
Pack	3,993,000	5,904,000
Total Supply	4,786,000	6,692,000
Stocks, April 1	1,398,000	1,576,000
Shipments during March	402,000	656,000
Ship., June 1 to April 1	3,388,000	5,116,000

NEW YORK MARKET

Buying Policy Unchanged—Small Lot Trading Of Tomatoes — Peas Moving Well — Asparagus Openings Studied — Increased Demand For Beans—Talking Higher Spinach Prices—Sliced Beets Getting Scarce—Citrus Moves Down—California Fruits Get Attention—Salmon Slow—Tuna Interest—Broadening Demand for Sardines.

By "New York Stater"

New York, April 28, 1950

THE SITUATION — Further weakness in Florida canned citrus developed during the week, tending to scare off many buyers. Buyers were studying prices on new pack asparagus as a guide to early buying operations. In the remainder of the market, significant price developments were lacking, but the gen-

From Stock
LINK-BELT
BABBITTED BEARINGS

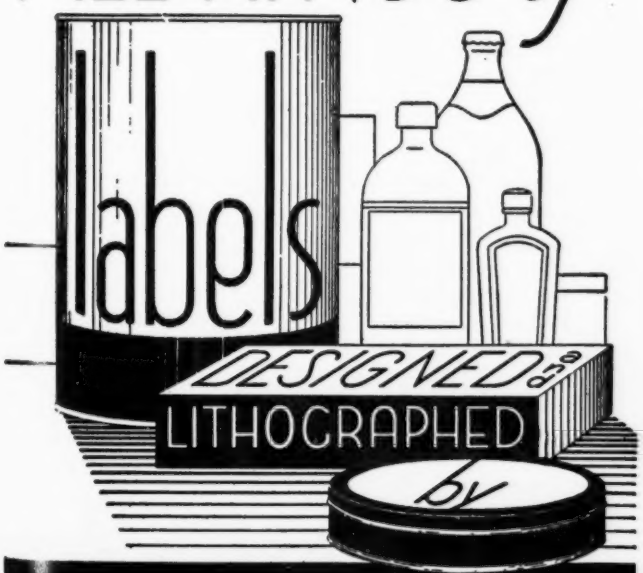
Link-Belt offers a complete line with a wide selection of all types of solid and split bearings, grease lubricated and ring-oiling, for light or heavy operation.

The economy, simplicity and dependability of babbitted bearings for many industrial applications have been firmly established through many years of service. Send for Catalogs.

LINK-BELT COMPANY 11.787

Chicago 8, Kansas City 8, Mo., Indianapolis 6, Philadelphia 40, Atlanta, Houston 1, Minneapolis 5, San Francisco 24, Los Angeles 33, Seattle 4, Toronto 8. Offices, Factory Branch Stores and Distributors in Principal Cities.

ALL KINDS of



PIEDMONT LABEL CO. INC.
LITHOGRAPHERS
BEDFORD VIRGINIA

HAMACHEK

Hulling Machinery

A GOOD "MAKE READY" ALWAYS PAYS

It is always important to have your viners and hulling equipment in good operating condition before the start of your season. Too many canners wait until crops are ready before making necessary adjustments and repairs, and then rely on inexperienced help.

Have your competent help check the following:

1. **A viner should always stand upon a good foundation and should be kept level, plumb, and square.**
2. **Elevator chains should have slats every 14th link and the same number of links in each strand.**
3. **All bolts and set screws should be tightened and the usual practices followed for the care of machinery.**
4. **Check to see that pulleys are of correct size for the power to be used.**
5. **Set the viners up complete several days before your crops are ready and run them to see that aprons, chains, and belts are properly adjusted.**
6. **If you do not have copies of instructions for operating Hamachek Viners, we will be glad to mail them without charge.**

FRANK
HAMACHEK
MACHINE COMPANY
KEWAUNEE WISCONSIN
ESTABLISHED 1880 • INCORPORATED 1924
PEA AND BEAN HULLING SPECIALISTS

eral undertone remaind steady to strong. Hand-to-mouth buying remains the order of the day, even on items which are at, or rapidly approaching, the "short" category.

THE OUTLOOK — Reassuring pronouncements from Washington on the favorable economic outlook have still failed to bring about any important revisions in distributor inventory replacement policies. Most wholesale canned foods buyers continue to operate strictly on a turnover basis, and there is nothing in sight at the moment to point any change in this basic policy.

TOMATOES — Small-lot trading remains the only market feature, and prices are unchanged for the week. Canner stocks are rapidly dwindling with most buyers waiting action on new pack before stepping up the tempo of their buying.

PEAS—Low prices have made for a continued good movement at the retail level, and buyers continue in the market on a day-to-day basis for replacements. Current inquiry encompasses the full quality range. No. 10s are attracting a little more attention, and are showing a strong tone.

ASPARAGUS — Opening prices on new pack California asparagus have been named by one major factor on the basis of $4.10 per dozen for early garden green tips and $3.15 for picnic salad points. These prices are 25 cents and 5 cents, respectively, over early-season quotations a year ago. Buyers are taking early shipment "grass" in a limited way to meet immediate needs but are deferring volume operations until full competitive price schedules are available from major packing areas.

BEANS—Some step-up in demand for green and wax beans is reported in the East and canner carryover holdings are about exhausted. Standard round pod continue firm at $1.10-$1.15, with fancy at $1.65-$1.70 for green, while standard wax hold at $1.10-$112½ and fancy at $1.50-$1.55, all f.o.b. southern canneries.

SPINACH—High prices for raw stock are holding back spring spinach packing operations in the East, and while one packer is reported to have opened fancy 2s at $1.30, other canners, who have not yet named any figures, are talking a $1.40 market.

BEETS—Reports from the Northwest indicate that canners are about cleaned up on sliced beets, but diced are offering in a fair way at $1.05 for fancy 2s and $4.30-$4.40 for 10s, f.o.b. canneries. New York State canners are also well cleared on sliced, but continue to offer diced for prompt shipment on the basis of 90 cents for fancy 2s and $4.10-$4.20 for 10s. Small lots of fancy sliced 2½s are reported available at $1.55-$1.60, with 10s at $5.00, all f.o.b. canneries.

CITRUS—While canners continue to talk high replacement costs, the market for Florida packs again moved downward this week, with unsweetened orange juice now available at $1.37½ cents, with sweetened a nickel below this figure. On 46-ounce, unsweetened is quoted at $3.30 with sweetened at $3.15. Blended juice is quoted at $1.32½-$1.35. Fancy grapefruit segments continue to hold at $2.00-$2.05, with broken at $1.85, while fancy citrus salad is steady at $2.40.

WEST COAST FRUITS—Buyers are looking the situation over carefully, particularly where canners are willing to "trade" to clear out small unsold stocks. The apricot situation has been stiffened by the latest report of the Canners' League, showing holdings of 939,832 cases, basis 2½s, sold and unsold, as of April 1, a sharp reduction from the 2,115,695 cases similarly held a year earlier. Peach holdings were somewhat larger, but stocks of cocktail were sharply lower. Fancy apricot 2½ halves are reported still available in California at $2.75 per dozen, with choice at $2.35-$2.40, and standards at $1.90. Cling peach offerings are reported at $1.90 for choice 2½s halves, with sliced at $1.95, while No. 10 choice halves can be had in a limited way at $7.40-$7.50. Cocktail is generally held at $2.90 for fancy 2½s, with choice at $2.80. Pear offerings are noted at $3.00 for fancy 2½s, with 10s at $10.75. In the California cherry market, choice Royal Annes can be bought at $2.65-$2.75, with dark sweet at about the same levels. Northwestern packers offering fancy Royal Annes at $3.15 for 2½s, with choice at $3.00, and standards at $2.60-$2.65. Prune plums in the Northwest are quoted at $1.65 for fancy 2½s, with choice at $1.45-$1.50, and standards at $1.35 to $1.40, all f.o.b. canneries.

SALMON—Distributors were showing little interest in making new commitments on salmon this week, and will ride into the summer months with present holdings and stocks bought, but still unshipped from the Northwest. Reds are cleared from first hands, but medium red cohoes are available in a limited way at $18.50 per case for talls and $11.00 for halves, f.o.b. Seattle. Pinks are still generally listed at $14.75 for talls and $9.75 for halves, with chums at $13.75 and $8.50.

TUNA—Warmer weather in some parts of the country has stimulated the call for tuna, and California canners report a better business, and are talking higher prices on some grades. Meanwhile, standard light meat halves are reported available at $12.25 per case, with fancy light meat halves at $13.25 and up, f.o.b. canneries.

SARDINES—Coast reports note a broadening demand for sardines, and the market is well held with ovals, mustard or tomato, holding at $5.75 per case and naturals at $3.75 for No. 1 talls. There has been no change reported in the Maine situation, with prices steady under limited offerings.

CRABMEAT—Japanese crabmeat has sold in a fair way, with 1950 pack offering here at $25.65 per case for fancy halves, due late next month.

CHICAGO MARKET

Wholesalers Not Buying As Chains Continue To Show Increases—Some Ozark Spinach Prices, Poor Pack Prospects — Corn Unchanged—Ozark Beans About Gone—California Fruits In Good Position—Salmon Quiet—Tomatoes Unchanged.

By "Midwest"

Chicago, Ill., April 27, 1950

THE MARKET—Business continues very slow in Chicago so far as sales to the wholesale grocery trade are concerned. Business at most levels seems to have slowed down, with the exception of the chain stores who apparently are continuing to show sales increases. The wholesale trade as a whole are complaining about business being slow, although figures are not available to show to what extent these complaints are actually justified. In any case buyers are sitting back in their chairs in this market and buying absolutely nothing that they don't need right at the moment, and orders being placed are generally of rather small size. On the bright side of the picture, however, is a definite firmness in the market situation on quite a number of items in the canned foods' list and an outlook for a stable price picture on many of the major items going into new pack.

OZARK AREA PRODUCTS—A few prior sets of prices on Spring pack spinach out of the Ozark area have been received here, and reportedly run from $1.25 to $1.35 f.o.b. factory on No. 2s fancy quality, with No. 1 at 85c to 90c and No. 2½s at around $1.60 to $1.65, with No. 10 at around $5.50. Reports from the packing area indicate that the crop is very very poor up to this writing and that the spinach now in the field is very questionable so far as producing good quality merchandise is concerned. Later plantings may produce a good quality crop, but none of the packers are feeling particularly optimistic about it at this time. In the meantime some business has been done here on Fall pack merchandise on a spot basis of $1.25 for No. 2 and $1.60 for No. 2½s. Most packers are quite well cleaned up on Fall

Corn Borer Control

Corona 10% DDT Dust

Corona Dust No. 52
5% Impregnated DDT Dust

Corona Dust No. 5
5% DDT Dust

Corona Dust No. 100
1% Rotenone

Corothion Dust No. 2
2% Parathion

Corona 25% DDT Emulsion

CORONA

Your Insurance for Better Crops!

WRITE FOR LITERATURE

Corona Chemical Division
PITTSBURGH PLATE GLASS COMPANY
MILWAUKEE, WIS. MOORESTOWN, N. J.

MANUFACTURERS OF

5/8 TOMATO BASKETS

Our machine made 5/8 Tomato Field Baskets with Keg or Veneer top hoop and Galvanized Metal or Wood Veneer bottom hoop are the best quality we have made in our 55 years of basket making.

5/8 Tomato Field Basket

Plastex Treatment

We are equipped to supply your baskets treated with **PLASTEX HAMPER SOLUTION** to help control flat sour bacteria in tomatoes and to lengthen the useful life of hampers.

Write for Full Information

Planters Manufacturing Company, Inc.
Portsmouth **Virginia**

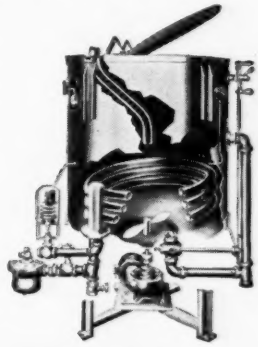
Now -

IS THE TIME TO ACT!

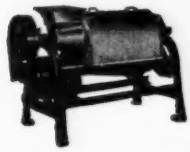
Efficient canning production is needed now! Needed for better product, better profit. **Efficient** production can be attained only with **efficient** equipment that eliminates poor product, unnecessary labor costs, and waste of production hours. Langsenkamp equipment is noted for producing better product at less production cost—actually **pays for itself through savings.**

LANGSENKAMP HOT-BREAK TANK

Secure extra earnings by using Langsenkamp's hot-break method. No raw product lost, gives fine full-flavored juice, better body, richer color. Enzymic action is prevented because broken tomatoes are instantly enveloped in liquid constantly kept at high temperature. Increases production volume with same equipment. Model "A" capacity -- up to 100 gallons per minute. Model "B" capacity -- up to 25 gallons per minute.



GATHER IN EXTRA PROFIT!



Install an Indiana Juice Extractor. Handles whole, scalded tomatoes perfectly. No coring necessary to obtain sweet palatable product. Cores and hard portions are discharged, without taking juice therefrom. Gentle pressing action extracts all the flavor juice. The choice of juice packers because it decreases production expense, produces finest quality product at half the cost!

LANGSENKAMP JUICE STRAINER

Install a Langsenkamp juice strainer into your line to filler. Increases quality of your juice by removing all foreign matter as well as broken seed. Easily installed. Requires **little attention.**

Write for catalog No. 48 today, or for specific information on any LANGSENKAMP product.

F. H. LANGSENKAMP COMPANY

227-235 East South Street **INDIANAPOLIS 4, INDIANA**

Have You Tried The Langsenkamp Superior Stainless Steel Sponge?

pack spinach and just a few lots are being offered with no packer having a complete assortment of sizes available at the present time according to reports.

CORN—The corn market continues pretty much unchanged, although firmed up from its very weak position a while ago. No. 2 fancy cream style and whole kernel are both reportedly available at around $1.25 f.o.b. factory, with No. 2 extra standard cream style reportedly quoted at around $1.05 to $1.10 factory. There is also some 8 oz. whole kernel being offered at a price around 70c f.o.b. Wisconsin factory. The movement of corn has apparently slowed down a little bit from the very large volume enjoyed during the period of weak prices, but nevertheless the situation so far as corn is concerned is definitely improved.

GREEN BEANS—There is a little demand for green beans and the supply out of the Ozark area is apparently quite well cleaned up at this point. It is reported that a few Southern green beans have been quoted around $1.25 for No. 2 standard cuts and $1.35 for No. 2 extra standard cuts, but the business is not large.

CALIFORNIA FRUITS — California cling peaches are showing up in quite a firm position recently with some of the larger holdings in California having been moved over the last couple of months. It is reported that some peaches are available at around $2.00 for No. 2½ choice and around $1.35 for No. 1 tall choice, but a number of packers have announced advances over these levels ranging around 10c a dozen on No. 2½ and other sizes in proportion. Sliced peaches in particular are reported to be quite short. In spite of this very firm position the demand here is not particularly active, although there is no question that peaches present a much brighter picture than they did at the time of Canners Convention. Fruit cocktail continues to be offered at around $2.80 for No. 2½ choice and business is slow on this item. Some No. 2½ fancy Elberta peaches have been sold here at around $3.10 and there have been sales reported on No. 2½ choice halves apricots at about $2.45 all f.o.b. factory.

SALMON—The salmon market is quiet, with quite a few items in very short supply. Tall pinks are quoted from $14.75 to $15.25 with the majority of factors at $15.25. Tall cohoes are offered in a range from $19.00 to $21.00, depending on quality, while a very few tall chums are reportedly available at $14.00. ½s chums are being offered at $9.00 and ½s pinks at $10.00, and it is understood that there are a few ½ lb. Puget Sound sockeyes being quoted at $17.00.

TOMATOES—The tomato market remains more or less unchanged with No. 2 quoted at $1.25 f.o.b. factory but very scarce, and No. 2 extra standards quoted at $1.35 to $1.50 f.o.b. factory. Tomato juice continues strong at around $2.15 and upwards for fancy 46-oz.

LABORATORY SERVICES

- VITAMIN ASSAYS
- PROXIMATE ANALYSES
- BACTERIOLOGICAL TESTING of sugars, syrups, starch, water, meats, egg products and canned foods
- MINERAL DETERMINATIONS

Write for details

WISCONSIN ALUMNI RESEARCH FOUNDATION

P. O. Box 2059 Madison 1, Wisconsin

CALIFORNIA MARKET

Crop Conditions Fairly Favorable — Stock Position Satisfactory—Dry Bean Stocks Up —Buying Continues Brisk—Tentative Openings On Asparagus — Cocktail Movement Excellent, Tomatoes Also—Artichoke Prices Withdrawn.

By "Berkeley"

Berkeley, Calif., April 27, 1950

CROPS — The condition of crops in which canners are directly interested continues fairly favorable, the late spring rains having been of decided benefit and the danger period for frosts about at an end. Rainfall, however, is still well below normal for the fourth consecutive year and water tables have reached an all-time low. The California Crop Reporting Service has not brought out any production outlook figures for 1950 deciduous tree crops or grapes, but the first release is promised shortly.

STOCKS—The Canners League of California has released figures showing canners stocks of fruits, tomatoes and certain tomato products as of April 1 and these indicate that sales and movement in March were quite satisfactory. In these figures, fruits are on a converted No. 2½ basis, while tomatoes and tomato products are actual cases. The figures are as follows, compared with stocks held a year ago: Apricots, 939,832 cases, against 2,115,695; sweet cherries, 187,987, against 24,759; pears, 435,599, against 410,578; cling peaches, 5,910,460, against 4,888,379; free peaches, 542,474, against 465,350; fruit cocktail, 3,385,734, against 4,133,869; fruits for salad, 507,896, against 262,150; mixed fruits, 367,170, against 59,648. Tomatoes, 1,896,505, against 2,345,254; tomato juice, 2,857,796, against 2,910,622; tomato catsup, 1,325,587, against 2,968,489; tomato chili sauce, 211,745, against 267,640, and tomato sauce and/or hot sauce, 1,308,910, against 2,067,108.

DRY BEANS — Canners and dealers have been coming into the California market a little more freely during the past ten days for Small White beans and the market seems especially firm at $7.50 per 100 pounds f.o.b. country shipping points. Offerings have been light, however. Stocks of dry beans in California warehouses on April 1 totaled 2,707,698 bags, or well above the 2,288,364 bags a year ago and the 1,404,000 bags that form the previous 9-year April 1 average. Support prices on the new crop will be slightly lower than last year and the California acreage promises to be cut down somewhat.

THE SITUATION—Buying continues at a brisk rate in this market, with some canners reporting the heaviest sales during the past month on some items they have ever experienced. Lists are badly broken and buyers are compelled to shop around to get requirements filled in full. Steamship concerns plying through the Panama Canal are swamped with cargo offerings and railroads are handling more canned foods than in a long time. Much of this has been brought about, of course, by the heavy buying that ensued when prices on some popular items were reduced. There is now the general realization that prices on many canned foods of the new pack must be higher than last year and there is a scramble on the part of distributors to build up spot stocks.

ASPARAGUS—A feature of the week has been the bringing out of tentative opening prices on the part of the California Packing Corporation on four items of new pack California asparagus, under Del Monte and featured brands. Green tipped and white asparagus is offered at $4.10 for No. 2 Early Garden, $2.80 for picnic Early Garden tips, and $3.15 for picnic salad points. Mary Washington all green is offered at $4.55 for No. 2s. Prices are for shipment prior to July 15. The tentative prices are slightly higher than those named on the 1949 pack but attention is directed to the fact that labor costs are higher and the cost of fresh asparagus is 12 percent to 15 percent more than it was a year ago. Other canners are expected to be out with opening lists during the week.

COCKTAIL—The sale and movement of fruit cocktail of late has been little short of phenomenal, with some canners sold up and others able to offer but a part of the list. Prices vary but little, hinging on $3.00 for fancy No. 2½s and $2.80 for choice. Fruit nectars have also sold well, with some of the largest operators reporting the heaviest volume of sales in their history.

TOMATO PRODUCTS—Tomato products have not been lagging during the upsurge in the market. Very little puree in either No. 2½s or No. 10 is to be had in the top grades. Tomato paste in No. 10s is not moving as well as some other items in the tomato products list, but stocks are not large. Offerings are being made at $11.00, with 6-oz. at $6.50 a case. Standard tomatoes are moving at $1.60 for No. 2½s and $6.00 for No. 10s, with extra standard at $1.80 and No. 10s at $6.75 for these sizes, respectively. Standard catsup in No. 10s is about off the market and No. 10 fancy is now held at $9.00 and extra standard at $7.75.

ARTICHOKES—The canned artichoke picture is scarcely as doleful as has been pictured by some, the principal drawback being that sufficient canning stock is not available, rather than any failing demand. Most operators withdrew offerings soon after opening prices were announced. A representative list quoted 1950 artichoke hearts in part as follows: 8 oz. Small, $1.80; No. 1 Tall Small, $3.10; No. 2 Small, $3.80, and No. 10 Small, $17.50. Other grade sizes are Medium and Tiny. In recent years, much mechanizing of plants has been done, resulting in a more uniform product and the holding down of costs.

GULF STATES MARKET

Buying Vacation Due To Price Cutting—Shrimp and Oyster Canning Operations At Standstill.

By "Bayou"

Mobile, Ala., April 27, 1950

THE SITUATION—A buying vacation seems to prevail in the canned shrimp and oyster market and buyers apparently are only interested in picking up bargains when ridiculous low prices are being offered them.

Complaint of packers cutting price on this season's pack have been made recently, and these price irregularities have no doubt slowed down the demand for canned shrimp and oysters. Nevertheless, the canning season for both shrimp and oysters is on its last lap.

This being the case, most likely the carry-over stock of these two packs is no doubt in strong hands and shading of prices may be at an end.

SHRIMP—The Winter closed season on the inland or inside waters of the states of Louisiana and Mississippi is from February 15 to April 15, therefore it expired last week and shrimp boats can now trawl in the bays, lakes, rivers and bayous of these two states which the closed season prohibited.

Louisiana and Mississippi have a summer closed season also on inside or inland waters and it is from June 21 to the 2nd Monday in August.

FASTER! BETTER! SURER! THE 2 STAGE HUMETHOD Of Green Crop Harvesting

New HIGH SPEED HARVESTING TECHNIQUE CUTS HARVESTING COSTS UP TO 40%

HUME TRACTOR-ROWER — high speed harvester, cuts and windrows in one operation — cutting a wide swath at high speed, windrowing without "roping" or tangling.

HUME GREEN CROP LOADER loads up to a ton of green vines in 90 seconds — meeting all crop conditions to assure a fast high quality, low cost harvest.

The Two-Stage HUMETHOD of green crop harvesting is the answer to practically every harvesting problem — light or heavy stands, long or short vines, wet or dry crops and land, stony, sandy or muck soil, hilly terrain. With light-weight, high-speed HUME equipment you can meet adverse conditions without loss of time, loss of crop, loss of quality.

Write for illustrated literature and prices.

H. D. HUME COMPANY MENDOTA, ILL.

Designers and Manufacturers of Special Harvesting Equipment

The summer closed season in Texas is from July 15 to August 31, and the winter closed season is from December 15 to March 1.

Alabama's closed season is regulated by legislative act or by regulations promulgated by the Alabama State Director of Conservation.

By order of the Director, the catching of shrimp in the coastal waters of Alabama was prohibited June 21, 1949 to August 10, 1949.

Florida's closed season is regulated by Supervisor, Florida State Board of Conservation.

Production of shrimp last week showed a slight increase of 134 barrels over the previous week, as 2,778 barrels were produced last week and 2,644 barrels the previous one. However, the canneries received 216 less barrels shrimp last week than the previous one, and the amounts were 132 barrels last week and 348 the previous one.

Landings of shrimp for the week ending April 14, 1950 were: Louisiana 767 barrels, including 132 barrels for canning; Mississippi 150 barrels; Alabama 30 barrels; Florida (Apalachicola) 191 barrels and Texas 1,640 barrels.

As reported by all Market News offices last week, total holdings of frozen shrimp decreased 364,340 pounds and were approximately 960,280 pounds less than four weeks ago. Total holdings were approximately 1,610,060 pounds more than one year ago.

The canneries in Louisiana and Mississippi reported that 934 standard cases of shrimp were canned during the week ending April 15, 1950, which brought the pack for the season to 600,690 standard cases as compared with 528,791 standard cases canned during the same period last season.

OYSTERS — Mississippi canneries have shut down for the season and no oysters nor shrimp are being canned, hence production of oysters dropped 9,783 barrels last week over the previous week.

Louisiana is the only area in this section canning oysters and reports show that 7,211 standard cases of oysters were canned the week ending April 15, 1950 which brought the pack for the season to 260,436 standard cases as compared with 244,799 standard cases packed during the same period last season.

Landings of oysters for the week ending April 14, 1950 were: Louisiana 11,477 barrels, including 10,238 barrels for canning; Alabama 152 barrels, and Florida (Apalachicola) 174 barrels.

JOINS SAN FRANCISCO BROKER

Don Woolf, formerly San Francisco Manager of the Biddle Purchasing Company, has joined Collins Brothers, San Francisco food brokers. Collins Brothers was formerly the Monterey Sales Company.

ANAEROBIC TREATMENT OF FOOD CANNING WASTES

(Continued from page 8)

ter as anaerobic since anaerobiosis did prevail. The extent to which absorbed oxygen contributed to B.O.D. or odor reduction is not known.

The conclusions drawn are valid only for the conditions prevailing during the study. Additional data are needed to (a) establish that greater digestion reduction will accompany increased agitation in the digester, (b) determine digester efficiency under other loadings and detention times, (c) to establish minimum detention periods of lagooned digester effluent for final discharge to a municipal sewage works or stream under various initial loadings, and (d) to study the performance of other types of cannery wastes particularly those high in starch content or deficient in mineral nutrients. It is quite possible that for some types of cannery wastes open pond anaerobic digestion could be conducted economically and without odor production for discharge directly to a municipal sewage works.

CONCLUSIONS

1. An open pond anaerobic digestion of mixed tomato and lima bean wastes effected a B.O.D. reduction of 39.8 percent with comparable reductions in suspended solids and volatile suspended and soluble solids.

2. The anaerobic digestion unit operated without objectionable odors beyond a distance of 500 feet at times of maximum odor production.

3. No digester effluents were obtained which could be discharged directly to a stream.

4. Effluents from the digester can be stored in lagoons without objectionable odor production.

5. Under the conditions encountered raw screened wastes averaging 982 p.p.m. B.O.D. were reduced by anaerobic digestion and subsequent lagoon storage to 57 p.p.m. within the 52 day canning period

REFERENCES

1. Hert, O. H., Anaerobic Treatment of Tomato and Pumpkin Wastes. Proceedings of the Fourth Industrial Waste Conference, Purdue University (1948).
2. Canham, R. A., Anaerobic Pilot Plant Operation, Tomato and Pumpkin Wastes. Proceedings of the Fourth Industrial Waste Conference, Purdue University (1948).

ADDS TWO UNITS

Grand Union Company this week added two new supermarkets to its New York chain.

Both of the new supers are large and modern, one being located in New York City and the other new store in Troy.

Both feature the "Food-O-Mat" and the "Meateria" installations.

CALENDAR OF EVENTS

MAY 4, 1950—Spring Meeting, Ozark Canners Association, Colonial Hotel, Springfield, Mo.

MAY 7-10, 1950—40th Annual Convention, Flavoring Extract Manufacturers Association of America, Traymore Hotel, Atlantic City, N. J.

MAY 11-13, 1950—Annual Convention, Mayonnaise & Salad Dressing Manufacturers Association, Stevens Hotel, Chicago, Ill.

MAY 14-18, 1950 — Annual Convention, Super Market Institute, Chicago, Ill.

MAY 17, 1950—Annual Meeting, Tidewater Canners Association of Virginia, Tides Inn, Irvington, Va.

MAY 21-24, 1950—Annual Convention, American Spice Trade Association, Shawnee Inn, Shawnee-on-the-Delaware, Pa.

MAY 21-26, 1950—Decennial Conference, Institute of Food Technologists, Edgewater Beach Hotel, Chicago, Ill.

MAY 24-26, 1950 — Annual Meeting, Central Atlantic States Association of Food & Drug Officials, Chalfont Hotel, Atlantic City, N. J.

JUNE 4-7, 1950—37th Spring Meeting, American Society of Refrigerating Engineers, Muehlebach Hotel, Kansas City, Mo.

JUNE 5-7, 1950—Annual Spring Conference, Label Manufacturers National Association, Williamsburg Inn, Williamsburg, Va.

JUNE 6-8, 1950—Spring Meeting, National Canners Association, Board of Directors, Administrative Council and Dedication of New Building, Washington, D. C.

JUNE 12-30, 1950—Food Technology School, Massachusetts Institute of Technology, Cambridge, Mass.

JUNE 29 - JULY 1, 1950 — Midyear Meeting, Grocery Manufacturers of America, Greenbrier Hotel, White Sulphur Springs, W. Va.

SEPTEMBER 7 - 9, 1950 — National Sweet Corn Festival, Hoopeston, Ill.

SEPTEMBER 8-25, 1950 — International Preserved Foods & Packing Exhibition, Parma, Italy.

OCTOBER 19-21, 1950—19th Annual Meeting, Florida Canners Association, Palm Beach Biltmore Hotel, Palm Beach, Florida.

JANUARY 11-12, 1951—Annual Fruit & Vegetable Sample Cutting, Canners League of California, Hotel Fairmont, San Francisco, Calif.

WEED KILLERS FOR STRAWBERRIES

Many chemical weed killers now on the market which contain 2,4-D can be used on the strawberry bed with good results against broad-leaved weeds, providing spraying is done before the first strawberry blossoms open. There is no satisfactory spray for controlling grass in the strawberry bed.

These conclusions are reached by Dr. Otis F. Curtis at the Experiment Station at Geneva where tests with 2,4-D sprays have been made on a number of varieties and unnamed seedlings of strawberries. The weed sprays resulted in a slight reduction in yield as compared with hand weeding, he says.

"There are times, however," continues Doctor Curtis, "when weeds are so serious in strawberry beds that a possible reduction in yield from the use of 2,4-D would be negligible compared with a possible complete loss of crop without weeding. There is also the added benefit of ease of picking to be gained from weed control."

For those who wish to try 2,4-D on a tentative basis it will probably be safe to use the equivalent of 1 pound of 2,4-D acid per acre at any time except between flower opening and fruit picking, suggests the Station scientist. One-half pound might suffice when the weeds first appear after setting out the bed, to be followed by a second treatment. Even a 2-pound rate might be worth trying on old weedy beds or for spot spraying of scattered weedy patches. Home gardeners with small beds may find it more convenient to follow the directions for lawn sprays, since the rate for lawn spraying is about 1½ pounds to the acre.

SUGGESTED DELAYED PLANTING DATES FOR BORER CONTROL IN ILLINOIS

Delay corn planting until May 15 to May 25 and corn borer damage will be greatly reduced without hurting corn yields.

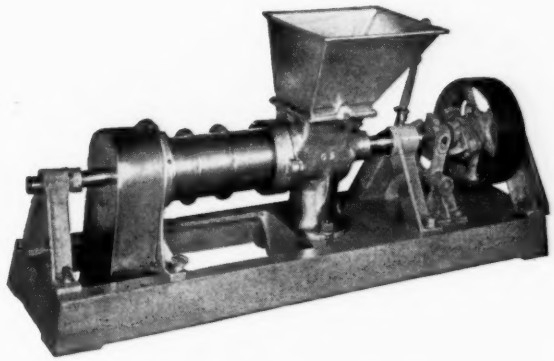
G. H. Dungan, agronomist in the Illinois College of Agriculture, says that, when corn borers lay their eggs on small plants, few of the eggs survive. But the corn borer moth is a good judge of corn. In late June the moth picks out the tallest corn it can find and lays it eggs there. Borers hatching from eggs laid on larger plants have a much better chance to survive because there's plenty of food.

Delayed, midseason planting is definitely a handicap to corn borers, especially on fertile soil. Early planting hurts not only your own chances for good yields, but your neighbor's chances too. Early-planted corn is a nursery where second-generation borers can multiply.

Dungan points out that six years of tests clearly prove that corn planted during the last two weeks in May, yields just as well as earlier planted corn. For largest yields and least lodging, the ideal planting date is May 23. And at least two winners in the 1949 corn yield contest in Illinois planted their corn on that date.

NEW CORN EARWORM CONTROL METHOD

A new method for keeping ears of sweet corn free of corn earworms has been announced by USDA's Bureau of Entomology and Plant Quarantine. Spray applications of an emulsion containing DDT, mineral oil, and water, to silks and husks of developing ears, when applied at the right time, kills worms before they attack and ruin corn. For power sprayers, it takes 3 quarts of 25 percent DDT emulsifiable concentrate and 2½ gallons of white mineral oil, diluted with water to make 25 gallons of this emulsion to spray one acre of sweet corn. Two or three spray applications are necessary. The first should be made the day when first silks appear. Other applications follow at 2-day intervals. They cost from 3 to 5 dollars per acre each. The mineral oil in the emulsion makes the difference between only fair and excellent results.



The CRCO-American

Model C

JUICE EXTRACTOR

Can be furnished for belt drive or motor driven.

This machine has a capacity of from 3 to 5 gallons of tomato juice per minute.

Write for detailed information

A. K. ROBINS & COMPANY, INC.

Food Processing Machinery

BALTIMORE 2, MARYLAND

CANNED FOOD PRICES

(Spot prices per dozen F.O.B. cannery unless otherwise specified.)

VEGETABLES

BEANS, STRINGLESS, GREEN

MARYLAND
- Fcy., Fr. Sliced, No. 2 ..... 1.55-1.60
- No. 10 ..... 7.00-7.50
- Fcy., Cut, No. 2 ..... 1.65-1.75
- Ex. Std., Cut, No. 2 ..... 1.30-1.40
- No. 10 ..... 6.50-6.75
- Std., No. 2 ..... 1.10-1.15
- No. 10 ..... 5.50-6.00

NEW YORK
- No. 2, Fcy., Wh., 2 sv. 2.60-2.80
- 3 sv. 2.40-2.50
- Fcy., Cut. 3 sv. 1.60-1.85
- 4 sv. 1.55
- Ex. Std., Cut, 5 sv. 1.25-1.40
- No. 2, Std., Cut, 5 sv. 1.20

WISCONSIN
- No. 2, Fcy., 3 sv. Wh. 2.50
- No. 2, Fcy., Cut, 4 sv. 1.80-1.90
- No, 2, Ex. Std., Cut 4 sv. 1.40-1.65
- 5 sv. 1.35-1.40
- Std., Cut, No. 2 ..... 1.20-1.25

NORTHWEST
- No. 2, Fcy., 1 sv., Wh. 2.75-2.80
- 2 sv. 2.65-2.70
- Fcy., Cut, 2 sv. 2.30-2.35
- 3 sv. 2.15-2.20
- 4 sv. 1.90-1.95
- Std., Cut, 6 sv. 1.50

OZARKS
- Std., Cut, No. 2 ..... 1.25
- No. 10 ..... 6.50-6.75
- Ex. Std., Cut, No. 2 ..... 1.30-1.35
- Texas, Std., Cut Gr., No. 1 ..... .80
- No. 10 ..... 5.25

BEANS, LIMA
- Md., No. 2, Fcy., Sm. Gr. 2.20
- No. 2, Fcy., Med. Gr. 170
- No. 303, 60% gr. 1.05-1.10
- No. 2 ..... 1.25-1.35
- No. 10 ..... 7.50-8.00
- Wis., No. 303, Tiny gr. 2.65
- Small 2.30
- Medium 2.00
- No. 2, Tiny gr. 2.85
- Small 2.55
- Medium 2.10

BEETS
- East, Fcy., Cut, No. 2 ..... .95-1.00
- No. 2½ 1.15-1.25
- No. 10 ..... 4.50-4.75
- Fcy., Sl., No. 2 ..... 1.20-1.25
- No. 2½ 1.50-1.60
- No. 10 ..... 5.25
- No. 2, Fcy., Wh., 10/0 ..... 1.40-1.45
- Mid-west, Fcy., Cut, No. 2 ..... 1.10
- No. 10 ..... 4.25-4.50
- Sliced, No. 2 ..... 1.20
- Fcy., Wh., No. 2 15/0 ..... 1.65
- No. 10 ..... 5.25
- 20/0 ..... 1.80
- Texas, Fcy., Sl., No. 2 ..... 1.00
- No. 10 ..... 5.00
- Fcy., Cut, No. 2 ..... .85
- No. 10 ..... 4.00
- Fcy., Diced, No. 2 ..... .95
- No. 10 ..... 4.50
- Fcy., Wh., No. 2, 10/0 ..... 1.25
- 16-18 ct. 1.45
- No. 10, 60-70 ct. 6.25

CARROTS
- East, No. 2, Diced 1.00
- Wis., No. 2, Diced 1.00-1.10
- No. 10 ..... 4.75-5.25
- Calif., Fcy., No. 2, Sliced 1.40
- No. 2, Diced 1.10

CORN

MIDWEST
- Fcy., W.K., Gold., No. 2 ..... 1.25-1.30
- 12 oz., vac. 1.20-1.25
- No. 303 ..... 1.15-1.25
- No. 10 ..... 7.25-7.50
- Ex. Std., No. 303 ..... .95-1.00
- No. 2 ..... 1.00-1.10
- No. 10 ..... 5.75-6.25
- Std., No. 2 ..... .90- .95
- Fcy., C.S., Gold., No. 2 ..... 1.20-1.25
- No. 303 ..... 1.10-1.20
- No. 10 ..... 7.25-7.50
- Ex. Std., No. 303 ..... .95-1.05
- No. 2 ..... 1.00-1.10
- No. 10 ..... 5.75-6.50
- Std., No. 2 ..... .90- .95
- No. 303 ..... .90

EAST
- Shoepeg, Fcy., W.K.,
- No. 1 ..... 1.05-1.10
- No. 2 ..... 1.35-1.50
- Ex. Std., No. 2 ..... 1.25
- Fcy., W.K., Gold., No. 1 ..... 1.00-1.10
- No. 2 ..... 1.20-1.30
- Ex. Std., No. 2 ..... 1.00-1.05
- No. 10 ..... 6.50-7.00
- Fcy., C.S., 8 oz. ..... .85- .90
- No. 1 ..... .95-1.00
- No. 303 ..... 1.10-1.15
- No. 2 ..... 1.20-1.30
- No. 10 ..... 7.00-7.25
- Ex. Std., No. 1 ..... .67½- .75
- No. 303 ..... .95-1.00
- No. 2 ..... 1.00-1.05
- No. 10 ..... 6.50-7.00
- Std., No. 2 ..... .90- .95

PEAS

MARYLAND, SWEET
- No. 303, Fcy., Ungraded 1.20-1.25
- Ex. Std. 1.10-1.15
- No. 2, Fcy., 4 sv. 1.40
- No. 2, Ex. Std., Ungraded 1.25
- 3 sv. 1.30
- Ex. Std., 3 sv., No. 10 ..... 8.50
- 4 sv. 7.75
- 5 sv. 7.00
- Ungraded 7.00-7.25
- No. 2, Std., Ungraded 1.10
- No. 10 ..... 6.50

NEW YORK, SWEETS
- No. 2, Fcy., 4 sv. 1.60-1.70
- No. 10 ..... 8.50
- No. 2, Ex. Std., 3 sv. 1.45
- No. 10 ..... 8.00
- No. 2, Ex. Std., 4 sv. 1.40
- No. 10 ..... 7.50
- 5 sv. 1.20
- No. 10 ..... 7.25

MIDWEST, ALASKAS
- No. 303, Fcy., 3 sv. 1.25-1.30
- No. 303, Ex. Std., 3 sv. 1.15-1.20
- 4 sv. 1.07½-1.12½
- No. 303, Std., 3 sv. 1.00-1.05
- No. 2, Fcy., 1 sv. 2.50-2.60
- 2 sv. 2.30-2.35
- 3 sv. 1.60-1.65
- No. 2, Ex. Std., 3 sv. 1.30-1.35
- 4 sv. 1.10-1.15
- No. 2, Std., 2 sv. 1.20
- 3 sv. 1.10-1.15
- 4 sv. 1.05
- No. 10, Ex. Std., 2 sv. 10.00
- 3 sv. 7.25-7.50

MIDWEST, SWEETS
- No. 303, Fcy., 3 sv. 1.50
- No. 2 ..... 1.65-1.70
- No. 2, Fcy., 4 sv. 1.45-1.50
- 5 sv. 1.40-1.45
- Ungraded 1.45-1.50
- No. 303, Fcy., 4 sv. 1.35

NORTHWEST
- Sweets, Fcy., No. 2, 3 sv. 1.80-1.85
- 4 sv. 1.65-1.70
- 5 sv. 1.60-1.65
- No. 2, Ex. Std., 3 sv. 1.55-1.60

POTATOES, SWEET
- Md., Fcy., Sy., No. 3, Sq. 1.75
- No. 2½ 1.85-2.15
- Texas, Fcy., Sy., No. 2 ..... 1.70
- No. 2½ 1.95
- No. 10 ..... 7.75

SAUERKRAUT
- N. Y., Fcy., No. 2½ 1.10-1.15
- No. 10 ..... 3.70-3.90
- Midwest, Fcy., No. 2½ 1.10-1.20
- No. 10 ..... 3.50-4.05

SPINACH
- Balto., Fcy., No. 2 ..... 1.25-1.35
- No. 2½ 1.65-1.75
- No. 10 ..... 5.50-5.75
- Calif., Fcy., No. 1 ..... 1.00
- No. 2 ..... 1.20-1.25
- No. 2½ 1.50-1.55
- No. 10 ..... 4.85-5.00
- Ozark, Spot, Fcy., No. 2 ..... 1.25
- No. 2½ 1.60-1.65
- No. 10 ..... Nominal
- Texas, Fcy., No. 10 ..... 5.00

TOMATOES
- Tri-States, Ex. Std., No. 1 ..... .90
- No. 2 ..... 1.40-1.45
- No. 2½ 2.10-2.20
- No. 10 ..... 6.50-6.75
- Std., No. 1 ..... .80- .85
- No. 2 ..... 1.25
- No. 2½ 1.95-2.00
- No. 10 ..... 5.75-6.00
- N. Y., Ex. Std., No. 2 ..... 1.40-1.50
- No. 2½ 2.25-2.30
- No. 10 ..... 6.25-6.75
- Midwest, Fcy., No. 2 ..... 2.00
- No. 2, Ex. Std. 1.35-1.50
- No. 2½ 2.20-2.30
- No. 10 ..... 7.00-7.25
- No. 2, Std. 1.25-1.30
- No. 2½ 1.85
- No. 10 ..... 6.75
- Ozarks, Std., No. 2 ..... 1.20-1.25
- No. 10 ..... 6.00
- Texas, Std., No. 2 ..... 1.20
- No. 10 ..... 5.75
- Calif., Fcy., No. 1 ..... 1.45-1.50
- No. 10 ..... 8.00-8.25
- Std., No. 303 ..... 1.20
- No. 2 ..... 1.30-1.35
- No. 2½ 1.55-1.60
- No. 10 ..... 6.00-6.25

TOMATO CATSUP
- Md., Fcy., 14 oz. 1.55-1.60
- N. Y., Fcy., 14 oz. 1.50-1.60
- Mid-West, Fcy., 14 oz. 1.60-1.85
- Calif., Fcy., 14 oz. 1.75

FRUITS

APPLES
- Va., Sl. Pie, No. 2 ..... 1.57½
- No. 10 ..... Withdrawn
- N. W., No. 10, Sl. 7.00-7.50

APPLE SAUCE
- N. Y., Fcy., No. 303 ..... 1.30
- No. 2 ..... 1.35-1.40
- No. 10 ..... 6.50-6.75
- Calif., Fcy., No. 303 ..... 1.23½-1.25
- No. 2 ..... 1.33-1.40

APRICOTS
- Halves, Fcy., No. 2½ 2.75
- No. 10 ..... 9.00
- Choice, No. 2½ 2.35-2.50
- No. 10 ..... 8.50-8.75
- Std., No. 2½ 2.00-2.20
- No. 10 ..... 7.00-7.15
- Unpeeled halves, No. 2½ 2.70
- Whole Peeled, No. 2½ 2.70

BLACKBERRIES
- Ozarks, Water Pack, No. 2 ..... 1.80

CHERRIES
- R.S.P., No. 2 ..... 2.30-2.50
- No. 10 ..... 12.50-13.00
- R.A., Fcy., No. 2½ 3.15
- Choice, No. 2½ 2.75-3.00
- Std., No. 2½ 2.60-2.75

FRUIT COCKTAIL
- Fcy., No. 1 T 1.72½-1.75
- No. 2½ 2.95-3.00
- No. 10 ..... 10.60
- Choice, No. 1 T 1.67½
- No. 2½ 2.80-2.85
- No. 10 ..... 10.20

PEACHES
- Calif. Y.C., Fcy., No. 2½ 2.10-2.20
- No. 10 ..... 8.25-8.40
- Choice, No. 2½ 1.95-2.10
- No. 10 ..... 7.50-7.70
- Std., No. 2½ 1.85-1.90
- No. 10 ..... 6.70-6.85
- S.P. Pie, No. 10 ..... 5.85

PEARS
- Calif. Bart., Fcy., No. 2½ 3.00-3.25
- Choice, No. 2½ 2.85-2.90
- No. 10 ..... 9.40
- Std., No. 2½ 2.50

PINEAPPLE
- Hawaiian, Fcy., No. 2½, Sl. 3.00
- No. 2 ..... 2.65
- No. 1, Flat 1.35
- Chunks, No. 2 ..... 2.65
- Tidbits, No. 2 ..... 2.65
- No. 1, Flat 1.35
- No. 10 ..... 11.60
- Crushed, No. 2 ..... 2.40
- No. 1, Flat 1.32½
- Buffet 1.25
- Choice, Sl., No. 2½ 2.85
- No. 2 ..... 2.52½
- No. 1, Flat 1.27½

JUICES

APPLE
- Va., Fcy., No. 2 ..... .95
- 46 oz. 2.20
- 32 oz. Bot. 1.70
- N. Y., Fcy., Qts. 1.50
- 46 oz. 1.90

CITRUS, BLENDED
- Fla., No. 2 ..... 1.32½-1.40
- 46 oz. 3.15-3.40
- No. 10 ..... 6.50-7.25

GRAPEFRUIT
- Fla., No. 2 ..... 1.30-1.40
- 46 oz. 3.10-3.30
- No. 10 ..... 6.50-7.25

ORANGE
- Fla., No. 2 ..... 1.32½-1.40
- 46 oz. 3.15-3.40
- No. 10 ..... 6.75-7.25
- Calif., No. 2 ..... Nominal
- 46 oz. ..... Nominal

PINEAPPLE
- Fcy., No. 2 ..... 1.35
- 46 oz. 3.25
- No. 10 ..... 6.50

TOMATO
- N. Y., Fcy., No. 2 ..... 1.00-1.10
- 46 oz. 2.30-2.40
- No. 10 ..... 4.25-4.50
- Tri-State, No. 2 ..... 1.00-1.10
- 46 oz. 2.25-2.45
- Midwest, No. 2 ..... 1.05-1.15
- 46 oz. 2.15-2.45
- Calif., Fcy., No. 2 ..... 1.02½-1.12½
- 46 oz. 2.25-2.45

FISH

OYSTERS
- Gulf, 4⅞ oz. 4.15-4.25

SALMON—PER CASE
- Alaska, Red, No. 1 T ..... Nominal
- ½'s ..... Nominal
- Med. Red., No. 1 T 20.50-21.00
- Pink, No. 1 T 14.75-15.25
- ½'s, Flat 10.00
- Chums, No. 1 T 14.00-14.50
- ½'s, Flat 9.00
- Sockeye, ½'s 17.00

SARDINES—PER CASE
- Maine, ¼ Oil keyless 8.00-8.50
- Calif., 1 lb. ovals with Tomato Sauce 5.75-6.00
- No. 1 T, Nat. 3.75-4.00

SHRIMP
- 5 oz., Small 3.75-4.00
- Medium 4.00-4.35
- Large 4.50-4.75
- Jumbo 4.80-5.00

TUNA—PER CASE
- Fcy., White, 48/½'s 15.25-15.50
- Std. ..... —
- Grated ..... —
- Fcy., Light meat ½'s 13.50
- ¼'s 8.00
- Std. 12.50